

12TH ANNUAL MALAYSIAN REHABILITATION MEDICINE CONFERENCE

Gathering Forces to Enable the Disabled.

Go Virtual!

www.12thamrmc.com

3rd September to 3rd October 2021



Perak 2021
12th AMRMC

Gathering Forces to Enable the Disabled



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Opening Remark

A) Conference Chairperson



Dear Colleagues and Friends,

It is with great pleasure we invite you to join the 12th Annual Malaysian Rehabilitation Medicine Conference: “Gathering Forces To Enable The Disabled, Go Virtual!” , which will be available online from 3.9.2021 to 3.10.2021. The 12th AMRMC was originally scheduled to be held in 2020 but due to the COVID-19 pandemic, the event has to be postponed to 2021. Although unprecedented, we hope this virtual event will not only reduce the risk of spreading the Covid-19 virus, but encourage much more participants to join in. This is the first time you will get to view the conference content at your leisure the whole month long!

We graciously call upon all parties who are involved in care for the person with disabilities (PWD), in Malaysia, to come together and share their experience. This is the platform where the clinical specialist from various disciplines related to Rehabilitation Medicine, meet with experts from the non-clinical fields such as NGOs and government agencies. Not forgetting our esteemed Industrial Partners, whom have been providing the much needed services to our patients will also share their latest innovations and updates on the products line up. It is time for us to challenge our conventional knowledge and expand our horizons from our home-grown talent. Hopefully by optimizing the resources that are available, we all can build a better tomorrow to our PWDs.

Our theme “Gathering Forces To Enable The Disabled”, signifies the diverse disciplines of Rehabilitation Medicine that place emphasis on distinguished speakers, professionals and researchers from various institutions in Malaysia , presenting their latest updates on clinical practices and results of the conducted studies. NGOs and government agencies will also enlighten us regarding facilities and the current regulations for community integration. Besides, our Industrial Partners will demonstrates the market-ready technologies and solutions, to add to the management options.

We Share, We Learn and We Practice!

We ensure that this will be an exciting and unique festival for all of us to come together and discover more about each other. We look forward to welcoming each and every one of you to Join Forces for a better future for our PWDs.

Best regards,

Dr Ng Kee Hoong

Opening Remark

B) National Head of Rehabilitation Medicine Service



Assalamualaikum warahmatullahi wabarakatuh dan Salam Sejahtera

Tuan-tuan, puan-puan dan rakan-rakan sekalian,

Selamat datang saya ucapkan kepada semua yang menyertai konferens Perubatan Rehabilitasi Malaysia ke 12 atau lebih dikenali sebagai 12th AMRMC.

Konferens pada kali ini telah diterajui oleh Jabatan Perubatan Rehabilitasi Hospital Raja Permaisuri Bainun, Ipoh dengan sokongan Persatuan Pakar Pemulihan Malaysia. Untuk makluman tuan-tuan dan puan-puan, usaha untuk menganjurkan konferen ini pada tahun ini telah dimulakan oleh Jabatan Perubatan Rehabilitasi Hospital Raja Permaisuri Bainun pada tahun 2019. Beberapa siri perbincangan telah dilakukan dan pelbagai venue telah dicadangkan dan akhirnya kita berjumpa di tahun 2021 di alam maya.

Saya ingin menyampaikan ucapan terima kasih saya kepada semua ahli jawatankuasa penganjur yang sentiasa berusaha untuk menjadikan konferens ini sebagai satu kenyataan. Cabaran-cabaran yang dilalui adalah unik, dan saya sendiri, mengambil dari semangat juang yang telah ditunjukkan oleh pasukan yang diketuai oleh Dr Ng Kee Hoong. Satu tepukan padu perlu diberikan kepada mereka, yang telah berjaya mengharungi rintang-rintangan untuk mengadakan konferens ini samada yang terang atau tersembunyi. Ucapan terima kasih ini juga saya panjangkan kepada rakan penaja yang telah membantu dalam merealisasikan majlis ini.

Tuan-tuan dan puan puan yang saya kasihi sekalian,

Penularan virus covid -19 telah memberi impak hebat kepada kita semua, impak dari semua segi, samada dari segi personal, keluarga, orang-orang di sekeliling, ekonomi, negara dan juga global. Saya tidak dapat membayangkan ujian-ujian yang telah tuan-tuan dan puan –puan hadapi. Sebagai warga kesihatan, saya percaya, juga ada diantara kita yang kehilangan orang yang disayangi, dan kita mendoakan agar roh-roh mereka dirahmati serta tenang di sana.

Penularan wabak ini dan variant-variantnya, telah memberikan cabaran baru kepada semua warga rehabilitasi untuk menyampaikan khidmat kepada jumlah pesakit yang lebih besar dengan kekangan sedia ada juga SOP-SOP yang perlu dipatuhi dalam keadaan norma baharu.

Tema pada tahun ini “Gathering Forces to Enable the Disabled, Go Virtual!” adalah tema yang amat bertepatan dengan keadaan semasa . Barisan penceramah dan topik yang akan dibincangkan, InsyaAllah akan mencetuskan idea-idea baru dalam usaha untuk menyampaikan perkhidmatan rehabilitasi berkualiti dan perkhidmatan-perkhidmatan lain yang diperlukan oleh pesakit serta golongan Orang Kurang Upaya.

Tuan-tuan dan puan puan yang saya hormati,

Detik-detik yang mendatang ini akan membawa cabaran yang lebih hebat kepada kita warga kesihatan secara amnya dan warga rehabilitasi secara khususnya, namun yang demikian, saya mempunyai sepenuh kepercayaan kepada kebolehan seluruh warga rehabilitasi di negara ini. Kita mempunyai, pengetahuan yang tinggi, kita berkebolehan untuk mengadaptasi mengikut situasi dan bersemangat tinggi untuk memberikan rawatan terbaik untuk pesakit yang memerlukan.

Bak kata Paul Valery

‘The trouble with our times is that the future is not what it is used to be’ namun begitu kita perlu sentiasa berusaha untuk mencapai matlamat kita seperti yang dimaksudkan lirik lagu;

Perlahan dayung asal sampai ke hujung , janganlah sampai kaduk naik junjung...

Dengan itu, saya ucapkan selamat mendengar dan berinteraksi di 12th AMRMC dan semoga kita akan berjumpa lagi di masa yang akan datang.

Terima kasih

Dr. Yusniza binti Mohd. Yusof

Opening Remark

C) President of Malaysian Association of Rehabilitation Physician



Dear MARP members, colleagues and friends,

As president of MARP I take great pride in welcoming all of you to the first Virtual Malaysian Rehabilitation Medicine Conference which will be available online from 3.9.2021 to 3.10.2021.

Because of the Covid-19 pandemic, it is unfortunate that we will not be able to physically unite and network in our usual manner. Instead, we have the opportunity to dive straight into new depth of the virtual platform that offers limitless participation and leisurely viewing of the conference content.

The scientific content for AMRMC this year is as good, if not better than the previous conferences and ties all the branches of the rehabilitation medicine fraternity very nicely in a beautiful bouquet of knowledge. The conference theme : “Gathering Forces To Enable The Disabled, Go Virtual!” is extremely relevant in building a new health paradigm that is based on collaboration. The rehabilitation medicine fraternity has the potential to flourish, touching the lives of millions by ‘Gathering Forces’ and I am particularly proud that this year we are including many of our government agencies namely the social welfare department, education department and road transport department.

I would like to congratulate our dynamic organising committee from Malaysia’s Tin Valley, the lovely quaint town of Ipoh for bringing together esteemed speakers from all over Malaysia.

Let’s push forward to a more cohesive and complete manner of treating our patients and managing them from a much broader perspective.

The Rehabilitation Medicine Department of Hospital Raja Permaisuri Bainun Ipoh in collaboration with MARP bids all participants a warm welcome and hope you have the most enriching ‘virtual’ experience of a lifetime!

Best regards,

Professor Nazirah Hasnan

Opening Remark

D) Director of Perak State Health Department



Dear colleagues and friends,

Ladies and gentlemen,

Salam sejahtera,

I bid you a warm welcome to 12th Malaysian Annual Rehabilitation Conference with the theme: “Gathering The Forces To Enable The Disabled, Go Virtual!”. I am told that this is the first time the state of Perak is holding this prestigious annual conference. However, this is also the first time that we have to do it fully virtual online. Well done to the organizing committee.

I am very honoured to be given this opportunity to give the opening speech for this Conference. I am equally proud that the topics covered are very relevant to our current situation in battling the COVID-19 pandemic and managing the current issue of long COVID-19 complications that is severely affecting our society at every level.

The theme chosen “ Gathering The Forces To Enable The Disabled “ is indeed very relevant in current modern medical practice. The organizing committee has put great effort to emphasize not only the clinicians and allied health but the non-governmental organizations that are actively involved in managing people with disability. This merging of knowledge across the different branches of society gives us the potential to grow and build the new health paradigm that our county is striving towards, this is to achieve independent community integration for people with disability.

This Conference is a platform for local talents to share their clinical experience and scientific papers, focusing on local needs and circumstances. Industrial partners are also invited to contribute their latest updates on the technology and products related to Rehabilitation Medicine.

Christopher Reeve, after suffering from spinal cord injury once said ,

“ A hero is an ordinary individual who finds the strength to persevere and endure in spite of overwhelming obstacles”.

In our current fight against the COVID-19 pandemic , his wise words give us the motivation that everyone, no matter what their physical status maybe, can be “hero” and help save lives.

It is unfortunate however that this year we could not bring all participants physically to our lovely city in Ipoh, but safety under the current circumstances is of utmost importance. Nevertheless, I’m sure our team from the Department of Rehabilitation Medicine Hospital Raja Permaisuri Bainun Ipoh has compensated for the lack of physical networking to enriching ‘virtual’ experience for all participants. I look forward to having the pleasure of joining your fraternity in this wonderful exchange of ideas that will help strengthen our management in people with disability.

Before I conclude, I would like to congratulate Department of Rehabilitation Medicine , Hospital Raja Permaisuri Bainun Ipoh for making this conference a success in this challenging era of COVID-19. The spirit of collaboration among all the parties involved, I would like to emphasize that, should be continued in the future. To all participants, thank you for committing you time and I wish all of you have a fruitful discussion and great learning experience together.

With great honour and blessing, I hereby declare the 12th Malaysian Annual Rehabilitation Conference: “Gathering The Forces To Enable The Disabled, Go Virtual!”

Thank you.

Dato’ Dr Ding Lay Ming

Opening Remark

E) Director of Raja Permaisuri Bainun Hospital, Ipoh



Bismilahir Rahmanir Rahim

Assalamualaikum warahmatullahi wabarakatuh dan Salam Sejahtera

Yang berbahagia Dato Dr Ding Lay Ming, Pengarah Jabatan Kesihatan Negeri Perak,

Yang berusaha Dr Yusniza Bt Mohd Yusof, Ketua Perkhidmatan Perubatan Rehabilitasi Kementerian Kesihatan Malaysia,

Yang berusaha Professor Dr Nazirah Bt Hasnan, Presiden Malaysian Association Of Rehabilitation Physicians

Yang berusaha Dr Ng Kee Hoong, Pengerusi bagi konferens 12th AMRMC kali ini,

Tuan-tuan dan puan-puan serta para hadirin sekalian yang dihormati,

Selamat datang saya ucapkan kepada semua.

Terlebih dahulu marilah kita merafakkan rasa bersyukur ke hadrat Allah s.w.t kerana dengan limpah berkat dan keizinanNya, dapatlah kita bersama-sama di dalam konferens Annual Malaysia Rehabilitation Medicine Conference (AMRMC) kali yang ke dua belas yang bertajuk : “ Gathering Forces to Enable the Disabled.”

Untuk pengetahuan para hadirin sekalian,

AMRMC ini merupakan konferen kebangsaan yang kali pertama dianjurkan oleh Jabatan Perubatan Rehabilitasi Hospital Raja Permaisuri Bainun. Pada kali ini, buat julung-julung kalinya konferen ini diadakan secara atas talian disebabkan oleh penularan pandemik Covid 19 di Malaysia. Konferen ini sepatutnya diadakan pada tahun 2020. Akan tetapi, ianya terpaksa ditunda pada tahun ini. Syabas saya ucapkan kepada Jabatan Perubatan Rehabilitasi HRPB atas usaha gigih untuk menjayakan persidangan ini walaupun dalam suasana yang mencabar sekarang.

Para hadirin sekalian,

Pesakit OKU bermaksud Orang Kurang Upaya, Orang Kehilangan Upaya atau Orang Kelainan Upaya, merupakan suatu keadaan di mana seseorang itu mempunyai pengurangan fungsi atau keupayaan jika dibandingkan dengan ukuran biasa masyarakat. Istilah ini digunakan bagi merujuk kepada pesakit yang mengalami masalah kecederaan saraf tunjang, masalah neurologi, kecederaan otak, amputasi sama ada pada bahagian tangan ataupun kaki, masalah penyakit jantung dan juga pesakit pediatrik yang mempunyai masalah dari segi fizikal. Pesakit-pesakit ini bukan sahaja diberikan rawatan secara klinikal seperti ubat-ubatan. Malah, mereka ini juga diberikan rawatan secara komprehensif bawah Perubatan Rehabilitasi yang terdiri daripada latihan fisioterapi, latihan berdikari di dalam aspek penjagaan diri sendiri, penilaian memandu, penilaian untuk kembali bekerja dan bimbingan di dalam memulakan perniagaan untuk rezeki.

Para hadirin sekalian,

Perubatan Rehabilitasi bermatlamat untuk mengembalikan fungsi pesakit sedemikian secara optimum berdasarkan keadaan pesakit dari semasa ke semasa. Rawatan-rawatan ini diharap dapat membolehkan pesakit menjalankan aktiviti-aktiviti fizikal dan melibatkan diri di dalam kegiatan-kegiatan komuniti setempat. Justeru itu, rawatan bukan sahaja melibatkan rawatan dari pihak doktor sahaja. Ianya juga merupakan rawatan secara bersepadu dari pihak-pihak yang lain seperti rawatan dari pegawai fisioterapi, pegawai pemulihan carakerja, pegawai diatetik dan juga rakan-rakan dari bidang bukan klinikal yang lain. Agensi kerajaan dan Agensi Bukan Kerajaan juga turut terlibat di dalam pemberian rawatan yang optimum dan membantu di dalam meningkatkan lagi kualiti hidup pesakit dengan kelainan keupayaan.

Konferens ini telah menyediakan satu platform untuk melibatkan semua pihak dalam menjayakan rawatan pesakit dengan kelainan upaya supaya mereka dapat kembali menyumbang kepada masyarakat dan juga negara.

Para hadirin sekalian,

Sebelum mengakhiri ucapan ini, saya ingin mengucapkan syabas dan tahniah kepada jawatankuasa penganjur dari Jabatan Perubatan Rehabilitasi Hospital Raja Permaisuri Bainun kerana telah berjaya mengadakan konferens yang sangat bermanfaat ini. Saya sesungguhnya akan sentiasa menyokong penuh konferens yang mampu memberi impak bukan sahaja kepada pesakit malah kepada masyarakat dan juga negara. Saya juga berasa bangga dan mengucapkan terima kasih kepada Jabatan Perubatan Rehabilitasi Hospital Raja Permaisuri Bainun di dalam penglibatan program vaksinasi peringkat hospital dan turut menyumbang di dalam memberikan rawatan kepada pesakit-pesakit covid 19 di Hospital Raja Permaisuri Bainun dan juga di negeri-negeri yang terjejas teruk akibat daripada pandemik Covid 19 seperti di Negeri Kedah dan di Negeri Selangor. Saya berharap peserta-peserta konferens dapat menggunakan ilmu yang diperolehi pada hari ini untuk sentiasa memberikan sumbangan yang terbaik di dalam perawatan pesakit di masa hadapan.

Sekian terima kasih.

Dr Abdul Malek Bin Osman

Organizing Committee 12thAMRMC

President MARP: Prof. Nazirah Bt Hasnan

Chairman: Dr. Ng Kee Hoong

Secretary General: Dr. Shivani A/P Rajasegaran

Treasurer: Dr. Ng Kee Hoong

Scientific Committee :

Chair: Dr. Ooi Ai Lee

Vice Chair: Dr. Lau Eng Foo

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Dr. Parimala A/P Nadarajan

Dr. Darshla Prabu

Technical & Domestic Committee:

Chair: Dr Choong Khim Fen

Members:

Dr. Cheong John Yee

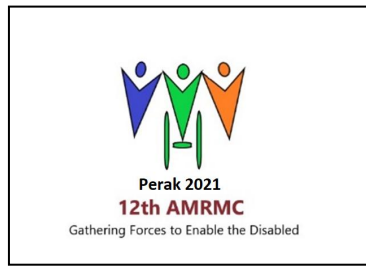
Dr. Samuel Choo Jiuan Shyan

Dr. Mohamad Shazwan B. Che Zahari

Committee Members:

1. Noor Azhar Binti Abd. Samid
2. Rohaida Bt Mohamad
3. Lailatul Binti Abd Aziz
4. Mahfuzah Bt Abidin
5. Nor Azwani Bt Idar
6. Tamilarasi A/P Maniyam
7. Nursyuhadah Bt Nor Muhammed
8. Nor Aziana Bt Abdul Aziz
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25. Razveen Kaur A/P Kaldip Singh
26. Nurul Izzah Bt. Yarahim
27. Mohamad Faizal B. Alauddin
28. Syaabanatun Bt. Ahmad Termizi
29. Muhammad Ridhwan B.Husain
30. Kong Nyet Ying



12th AMRMC 2021 Go Virtual!
Gathering Forces to Enable the Disabled
Scientific Program

Scientific Program	
Opening Remarks	
1	Conference Chairperson <i>Dr. Ng Kee Hoong</i>
2	National Head of Rehabilitation Medicine Service <i>Dr. Yusniza binti Mohd Yusof</i>
3	President of Malaysian Association of Rehabilitation Physicians <i>Professor Dr. Nazirah binti Hasnan</i>
4	Director of Perak State Health Department <i>Dato' Dr. Ding Lay Ming</i>
5	Director of Raja Permaisuri Bainun Hospital, Ipoh <i>Dr. Abdul Malek bin Osman</i>

Plenary Sessions	
1	Evidence Based Rehabilitation Practice: Implementation Challenges and Role of Cochrane Rehabilitation <i>Associate Professor Dr. Julia Patrick Engkasan</i>
2	National Rehabilitation Medicine Strategy in 12th Malaysia Plan <i>Dr. Yusniza binti Mohd Yusof</i>
3	Rehabilitation Medicine in Malaysia: Past, Present and Future <i>Professor Dr. Nazirah binti Hasnan</i>
4	The Future of Rehabilitation Medicine in Ageing Society <i>Professor Dato' Dr. Zaliha binti Omar</i>
5	Rehabilitation of Motor Neuron Disease - Issues and Outcome <i>Professor Datin Dr. Lydia binti Abdul Latif</i>
Musculoskeletal and Interventional Rehabilitation	
1	Pragmatic MSK Rehabilitation Approach <i>Associate Professor Dr. Anwar Suhaimi</i>
2	Rehabilitation after Regenerative Treatment for Knee Osteoarthritis <i>Dr. Brenda Saria Yuliawiratman</i>
3	Minimally Invasive Procedure of Hemiplegic Shoulder Pain <i>Dr. Abdul Rahman bin Ab Hamid</i>

PhD Platform	
1	Cognitive Rehabilitation Protocols Based on Clinical Trials <i>Dr. Norhamizan binti Hamzah</i>
2	Advance Neuroimaging as Biomarker for Mild TBI Cognitive Outcome <i>Dr. Norhamizan binti Hamzah</i>
Sexual Rehabilitation and Reproduction	
1	Sexual Dysfunction in Persons with Disabilities <i>Dr. Shivani Rajasegaran</i>
2	Fertility and Reproduction in Spinal Cord Injury <i>Dr. Tham Seong Wai</i>
Neurological Rehabilitation	
1	An Update on Traumatic Brain Injury Rehabilitation in Malaysia <i>Associate Professor Dr. Mazlina Mazlan</i>
2	Emotional and Behavioural Challenges Post TBI <i>Dr. Sheela Theivanthiran</i>
3	Diagnostic Motor Nerve Blocks in Spasticity Management <i>Dr. Chung Tze Yang</i>

4	Photobiomodulation in Rehabilitation <i>Dr. Chung Tze Yang</i>
5	Rebelling Against the Norm: Botulinum Toxin in Lower Motor Neuron Injury <i>Dr. Thor Ju An</i>
Early Intervention and Education in Disability	
1	Pemantapan Kompetensi Murid Berkeperluan Khas (MBK) di Sekolah Melalui Perkhidmatan Sokongan dan Intervensi Awal <i>Mdm. Eni Zanifah binti Mohd Jaber</i>
2	Community Based Rehabilitation Program (PDK) & Industrial Training and Rehabilitation Centre Bangi (PLPP) <i>Mr. Pathmanathan A/L R.Nalasamy</i>
Driving and Licensing for People with Disabilities	
1	The Development and Utility of Malaysian Version Stroke Drivers Screening Assessment (MySDSA) <i>Associate Professor Dr. Mazlina Mazlan</i>
2	Can Stroke Patients Drive? <i>Dr. Mohd Suleiman bin Murad</i>
3	Pelesenan Memandu Kategori O.K.U <i>Mr. Azman bin Ismail</i>

Cardiopulmonary Rehabilitation	
1	Cardiopulmonary Rehabilitation in Pulmonary Hypertension Survivors <i>Dr. Saari Mohamad Yatim</i>
2	Moving Towards Home Based Pulmonary Rehabilitation Program - A Path to Breathing Better <i>Dr. Chan Soo Chin</i>
3	Sternal Precautions in Cardiothoracic Surgery: What is the Evidence? <i>Dr. Katijjahbe Md Ali</i>
Cancer Rehabilitation	
1	Self-sampling HPV Testing among PWD: Leaving No One Behind in the Global Cervical Cancer Elimination Goal <i>Professor Dr. Woo Yin Ling</i>
2	Rehabilitation for Cancer Survivors <i>Dr. Sharon Anne Khor Keat Sim</i>
COVID-19 Rehabilitation	
1	An Overview of the Rehabilitation Medicine Response to COVID-19 Care from Inpatient to Early Outpatient for Survivors in UMMC: Lessons from the Battleground <i>Associate Professor Dr. Mazlina Mazlan</i>

2	<p>Early Rehabilitation Needs of COVID-19 Patients in Critical Care & The Acute Setting</p> <p><i>Associate Professor Dr. Anwar Suhaimi, Mr. Mohamad Syafiq bin M Saron</i></p>
3	<p>Overview of Post COVID-19 Rehabilitation Program in University Malaya Medical Centre - The Road to Recovery</p> <p><i>Dr. Chan Soo Chin, Mdm. Nur Faizah binti Mohd Norizam</i></p>
4	<p>COVID-19 Rehabilitation Protocol: Turning Evidence into Practice</p> <p><i>Associate Professor Dr. Julia Patrick Engkasan</i></p>
5	<p>Rehabilitation Medicine: In the Frontline of COVID-19</p> <p><i>Professor Dr. Nazirah binti Hasnan</i></p>
6	<p>COVID-19: Updates, Reality & Hopes</p> <p><i>Dr. Leong Chee Loon</i></p>
7	<p>Long COVID-19 ILD: Will It Resolve or Progress?</p> <p><i>Dr. Muhammad Amin Ibrahim</i></p>
8	<p>An Insight into Long COVID – Rehabilitation Medicine Perspectives</p> <p><i>Dr. Akmal Hafizah Zamli</i></p>
9	<p>Psychological Response towards the COVID-19 Pandemic: Are We Coping Better?</p> <p><i>Dr. Loo Tsui Huei (Vicky)</i></p>

Community Service and Recreation in Disability

1	Unimaginable Possibilities: Diving into the Heart of Volunteerism in Extreme Sports for Disability <i>Mr. Hj. Syed Abd Rahman</i>
2	Transcending Borders: Helping Stroke Survivors and Family Caregivers from Hospital to Long Term Recovery <i>Ms. Tracy Chan Yan Peng</i>
3	The Gift of Independence <i>Ms. Toh Su Mei</i>
4	Kemudahan Sukan & Peluang untuk Orang Kurang Upaya <i>Mr. Mohd Khairol bin Kamis</i>

Wheelchair and Seating System

1	Pediatric Wheelchair Prescription <i>Mr. Thurai M Karuppiah</i>
2	Foam in Place - Customized Seating and Positioning System <i>Mr. Julian Chung Soon Hong</i>

Telerehabilitation

1	Telemedicine Guidelines in South East Asia - Applications in Telerehabilitation <i>Dr. Intan Sabrina binti Mohamad</i>
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2	<p>Physiotherapy Care Via Telerehabilitation</p> <p><i>Dr. Mohd Haidzir bin Abd Manaf</i></p>
<p>Intrathecal Baclofen (ITB) Therapy</p>	
1	<p>Overview of Intrathecal Baclofen (ITB)</p> <p><i>Dr. Ooi Ai Lee</i></p>
2	<p>Intrathecal Baclofen (ITB) Therapy Service in Ministry of Health Malaysia</p> <p><i>Dr. Chern Phei Ming</i></p>
3	<p>Spasticity Assessment in ITB Pump Patients</p> <p><i>Dr. Azrulreezal Azanee bin Abdul Wahab, Mr. Yee Wing Wei</i></p>
4	<p>Surgical Aspect of ITB</p> <p><i>Dr. Cheang Chee Keong</i></p>
5	<p>Intrathecal Baclofen (ITB) Therapy Service Experience in Hospital Rehabilitasi Cheras</p> <p><i>Dr. Chern Phei Ming, Dr. Madiha binti Mohamad Muhayadin</i></p>
6	<p>ITB Experience in Hospital Sultanah Bahiyah, Alor Setar, Kedah</p> <p><i>Dr. Norhaina binti Mahli</i></p>
7	<p>Intrathecal Baclofen (ITB) Pump Interrogation and Programming</p> <p><i>Dr. Choong Khim Fen, Mr. Brian Kah</i></p>

8	ITB Refill Procedure <i>Dr. Aiza Shafrina Othman, Dr. Elyana binti Jalil</i>
9	Nursing Role in Intrathecal Baclofen (ITB) Service <i>SN. Nor Azwani binti Idar (HRPB), SN. Nurul Izzati binti Rozaki (HRC), SN. Mimi Ilyana binti Abd Manaf (HSB)</i>
Amputee Rehabilitation	
1	Clinical Consideration for Upper Limb Prosthesis <i>Dr. Siti Norzalilah binti Abdul Majid</i>
2	Update on Bionic Hand <i>Mr. Santosh Kumar Prasad</i>
3	Update on Microprocessor Prosthetic Knee <i>Mr. Santosh Kumar Prasad</i>
Social Security Organisation (SOCSO)	
1	MyFutureJobs Sharing <i>Mr. Andreas Charles Akobiarek</i>
Allied Health	
1	Innovation & Intervention in Occupational Therapy Rehabilitation <i>Ms. Hasnetty Zuria Mohamed Hatta</i>

2	Visual Rehabilitation (Orientation and Mobility) <i>Mdm. Alisza binti Ahmad</i>
3	Playful Interaction for Children With Developmental Problems: How to Implement It? <i>Mdm. Nora binti Hamid</i>
4	Adolescent Idiopathic Scoliosis <i>Mdm. Nurul Liyana Teong</i>
5	Employment for Autism Adolescence: Barriers and Opportunities <i>Dr. Mohd Suleiman bin Murad</i>
Featured Lectures	
1	Nutrition in Rehabilitation Medicine: New Kid in the Block <i>Professor Dr. Amaramalar Selvi Naicker</i>
2	Rehabilitation in the Land Below the Wind <i>Dr. Syahiskandar Sybil Shah</i>
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1. GABAPENTIN ASSOCIATED NEURO-RECOVERY POST TRAUMATIC SPINAL CORD INJURY

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OBJECTIVE

To report an association between early initiation of oral gabapentin with neuro-recovery post spinal cord injury.

CASE PRESENTATION

We present a case of a neurological recovery from AIS B to AIS D within 5 months post trauma, associated with early concurrent initiation of oral gabapentin for neuropathic pain.

Mr N, a 34-year-old gentleman who was pre-morbidly well, sustained a polytrauma following an alleged motor vehicle accident. He had T5 and T6 burst fractures with spinal canal stenoses, bilateral humeral fractures and bilateral tibial fractures. He underwent surgical spinal stabilisation and internal fixations of his multiple fractures. His initial NLI was T5 AIS B (2 weeks post trauma). Acute intensive rehabilitation was limited by his concurrent long bone fractures. Oral gabapentin was initiated at 6 weeks post injury for neuropathic pain, from initial dose of 300mg once a day to three times a day and continued for 4 months.

RESULT

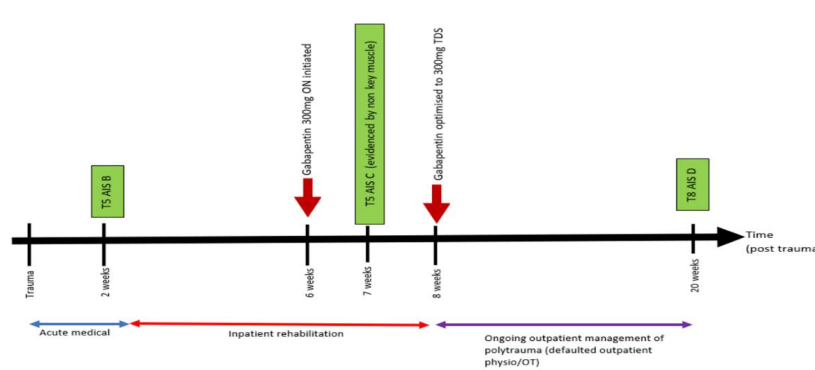
A repeated ASIA examination at 20 weeks post discharge (14 weeks post initiation) revealed an improvement of NLI from T5 AIS B to T8 AIS D.

CONCLUSION

Gabapentinoid anticonvulsants have been suggested to promote corticospinal plasticity and regeneration in pre-clinical studies, by the actions of promoting neural protection via calcium channels blockade and boosting neural regeneration via inhibiting upregulation of $\alpha 2\delta 2$ subunits. Although its clinical usage to promote neuro-recovery post spinal cord injury is yet to be proven by randomised controlled trials, recent retrospective observational studies have suggested promising outcome.

KEYWORDS

gabapentin, neuro-recovery, spinal cord injury



2. THE IMPACT OF A HOME-BASED NMES PROGRAM ON POST STROKE LOWER LIMB SPASTICITY: A CASE REPORT

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INTRODUCTION AND OBJECTIVES

Spasticity is a common complication post stroke. Recent treatment options include neuromuscular electric stimulation (NMES). The objective of this case study is to assess the impact and patient's perception of a home-based NMES program in post-stroke spasticity.

CASE STUDY

This is a case study of a patient with post stroke plantarflexors spasticity who had been prescribed with a home-based NMES program over the antagonist muscle with stretching exercises. The program consist of NMES applications for 20 minutes/day, 5 days a week for 4 weeks with NMES dose: biphasic pulsed current, 50Hz, width 400 μ s, ON:OFF 10:20s and amplitude individual maximum tolerated to achieve ankle dorsiflexion, electrodes at common peroneal nerve and motor point of tibialis anterior muscle. Patient's perception is determined by compliancy and structured questionnaire and the impact is determined by outcome measure of plantarflexors MAS, Modified Tardieu Scale, lower extremity FMA and 10MWT.

RESULT

A 49 years old gentleman with 10 months of left hemiparesis due to ischemic stroke with ankle plantarflexor spasticity MAS 1+ with R1 at 25°plantarflexion and R2 at 0°. He was able to walk independently with speed of 1.00m/s. Home-based NMES program was prescribed while he resume his outpatient therapy. The treatment help the patient move from MAS Grade 1+ to MAS 1 with improved R1 by 5 degree and R2 by 8 degree. The walking speed and lower extremity FMA did not showed improvement. He was compliant to the treatment and overall gave positive feedback regarding home-based NMES program.

CONCLUSION

Conventional stretching exercises along with a home-based NMES can be used as a treatment choice for post stroke spasticity.

KEYWORDS

electrical stimulation, home based, spasticity

3. CRPS IN CENTRAL CORD SYNDROME: A STEROID SOLUTION TO THE INTEGRATED MULTIDISCIPLINARY MANAGEMENT

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INTRODUCTION

Complex regional pain syndrome (CRPS) is a rare perplexing painful syndrome of the extremities that is disproportioned to the inciting event and associated with evidence of vasomotor, sudomotor and trophic changes at the affected region. The possibility of CRPS in spinal cord injury is overlooked as it is sparsely reported. Failure to recognize and treat CRPS in its early stages leads to development of disabling chronic symptoms.

CASE PRESENTATION

We describe a 45-year-old patient who developed CRPS of left upper limb in the background of traumatic central cord syndrome. He presented with worsening burning sensation with features of hyperalgesia, allodynia and edema of his left upper limb alongside restriction of left shoulder passive range of motion 3 months post trauma. He received comprehensive multidisciplinary rehabilitation care that included (a) tapering dose of prednisolone and (b) non-pharmacological approaches consisting of cognitive behavioural therapy, transcutaneous electrical nerve stimulation, graded range of motion and strengthening exercises, mirror visual feedback and desensitization therapy.

RESULTS

Patient showed significant positive clinical response to the treatment regime which translated to large improvement in his functional activities and participation that carried on beyond the period of treatment

	At presentation	6 weeks review (post completion of prednisolone)	6 months review
Signs and symptoms	+hyperalgesia +allodynia +edema +limited ROM	+minimal pain resolved hyperalgesia, allodynia and edema	
NRS	9	3	3
shoulder forward flexion passive ROM	0-45 degrees	0-180 degrees	0-180 degrees
shoulder abduction passive ROM	0-30 degrees	0-160 degrees	0-160 degrees
MBI	23	62	62
QuickDASH score	92.5	32.5	27.5

Table 1-NRS: Numerical rating scales, ROM: Range of motion, MBI: Modified Barthel Index, QuickDASH score: Quick Disability of the Arm, Shoulder and Hand score

CONCLUSION

CRPS is rare but a possible complication of cervical cord syndrome that should be at the back of one's mind prompting early diagnosis and proper treatment of acute CRPS curbing long term complications. CRPS in its acute phase can be well treated with prednisolone in rehabilitation setting translating into functional progress and improvement in quality of life.

KEYWORDS

CRPS, Rehabilitation, Prednisolone, Steroid

4. MAGGOT DEBRIDEMENT THERAPY FOR PRESSURE INJURY MANAGEMENT IN TETRAPLEGIC PATIENT IN MALAYSIA.

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INTRODUCTION

Infected pressure injury is among life threatening complications in spinal cord injury (SCI) patients and mostly requires multifaceted management strategy. This case report illustrates wound healing progress of a 56-year-old man with incomplete tetraplegia from cervical spondylotic myelopathy complicated with infected bilateral ischial tuberosity pressure injury. Presence of multidrug-resistant organism infection, *Pseudomonas aeruginosa*, deemed wound management to be unsuccessful despite 14 days intravenous antibiotic therapy using polymyxin E, coupled with multiple intraoperative and bedside surgical debridement, with modern dressing throughout admission. Reduction of bacterial burden was seen after third intraoperative surgical debridement followed by Maggot Debridement Therapy (MDT). This case highlights MDT success in large unhealthy pressure injuries coupled with holistic wound care management specific to spinal cord injury community.

METHODS

The patient underwent 4 cycles of MDT. 150 to 200 maggots were placed on the wound using sterile technique every 4 days. Improvement in wound bed granulation tissue, size and discharge were documented. To minimize wound contamination, strict bowel program was maintained and urine was drained with continuous bladder drainage. Prone positioning was emphasised amongst the nursing team.

RESULTS

After 4 weeks of MDT, wound appearance improvement became evident with slough and exudate reduction. Healthy granulation tissue with contact bleeding predominated the wound bed. Wound contraction was 33% in size, from 17×16 cm to 14×13 cm.

CONCLUSION

From a total 3-month hospital stay, together with incontinence management and good positioning, maggot debridement therapy proved a good option in wound management and facilitating pressure injury healing for SCI patients.

KEYWORDS

Maggot debridement therapy, pressure injury, spinal cord injury

5. EFFECTS OF LOW LEVEL LASER THERAPY IN PERIPHERAL NERVE INJURY

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INTRODUCTION AND OBJECTIVE

Peripheral nerve injury (PNI) often causes functional impairment in patients, and the nerve regeneration might be slow and incomplete. Low-level laser therapy (LLLT) was explored on the effectiveness of enhancing or accelerating the recovery of PNI. We report the outcome of LLLT treatment in two patients with PNI.

CASE PRESENTATION

Case 1 was a 4-year-old boy who presented with ischemic neuropathy of the right median, ulnar and radial nerve, due to radial artery spasm from arterial catheterization 2 months ago, with no neurological recovery. Case 2 was a 7-year-old girl who had right median, ulnar and radial nerve injury due to right supracondylar fracture 5 months ago, with no neurological recovery. The patients received LLLT, which both was given laser over anatomical location of right median, ulnar and radial nerve at the cubital region, while the second patient was given an additional site over the right paraspinal area of C7. The size of laser probe used, and wavelength dosage and duration of LLLT given in both patients were different. Both were given 10 sessions of LLLT but over a different period of time. After completion of LLLT, both patients had improvement in motor functions but no sensory improvement. No side effects were reported.

CONCLUSION

LLLT showed promising motor recovery in PNI with absence of side effects in both patients. However the LLLT protocol used in both patients were different. Further studies are required to explore the dose, duration, intensity and application site to verify the effectiveness of LLLT.

KEYWORDS

Low Level Laser Therapy, Peripheral Nerve Injury

6. STUBBIES – PROSTHETIC RESTORATION IN A PATIENT WITH BILATERAL TRANSFEMORAL AMPUTATION

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INTRODUCTION AND OBJECTIVES

Stubbies is a short prosthetic leg without knee and pylon, which is an alternative prosthesis to full-length prosthesis for patients with bilateral transfemoral amputation. Bilateral transfemoral amputees require more energy expenditure when using prosthesis, and have balance and stability issues. These patients require less energy, and have better balance and stability during ambulation with stubbies. We report a bilateral transfemoral amputee who was prescribed with stubbies.

CASE PRESENTATION

A 35-year-old gentleman, with no comorbidities, had bilateral transfemoral amputation due to bilateral distal limb ischaemia. He received rehabilitation after the amputation, which he was able to be independent with wheelchair. 12 months later, he was physically and mentally prepared for prosthetic restoration. He received stubbies with the components of transfemoral sockets with pin and lock suspension, and prosthetic feet. He was able to ambulate independently without aids with training, however the prosthesis still required serial modifications for comfort and gait improvement. Cosmetic of stubbies was a psychological barrier to him, which he was able to overcome the issue, and ambulate with stubbies at outdoors and at work. He was planned for full-length prosthesis later once he is physically ready.

CONCLUSION

It's challenging for bilateral transfemoral amputees to achieve prosthetic restoration with full length prosthesis. Stubbies is an optional prosthesis due to the advantages in stability, balance and energy consumption, and can be used as training tool before using full-length prosthesis. To achieve successful prosthetic restoration, patient's motivation, ongoing physical therapy, family support, and commitment from the rehabilitation team are needed.

KEYWORDS

Stubbies, Bilateral Transfemoral Amputation

7. A CASE REPORT: ATROPINE DROPS INDUCED PSYCHOSIS AFTER SUBLINGUAL ADMINISTRATION FOR SIALORRHEA TREATMENT IN STROKE PATIENT

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ABSTRACT:

Sialorrhea also known as drooling is defined as excessive saliva in the mouth or hypersalivation. The symptom causes discomfort for most stroke patients or other neurological disorders such as Parkinson's disease. Sialorrhea may affect physical, mental, self-esteem and social life because the patient needs to accommodate the excessive salivation in activity of daily living such as eating, talking, resting and sleeping in addition to psychosocial complications such as social stigma among families and friends. Advanced complications might also develop such as aspiration pneumonia. Even worse, the patient might suffocate with the excessive saliva in the throat. In view of sialorrhea affecting quality of life, the symptomatic treatment is very important. One of the drugs that can reduce salivary production is ophthalmic atropine drops; anticholinergic drops synonymously used for dilatation of pupils and treatment of iritis and uveitis. Utilising the side effect of atropine which is dryness of mouth, atropine eye drops are also used for symptomatic treatment of sialorrhea. Nevertheless, there is no consensus and limited research data regarding the use of sublingual atropine to manage sialorrhea. We describe a case of a 61 years old man with atropine-induced psychosis after a single dose of sublingual atropine 1%. We report the atropine outcomes and possible side effects of psychosis in administering ophthalmic atropine via sublingual route in a stroke patient.

Keywords:

Atropine, Sialorrhea, Psychosis.

8. EYE TRACKING DEVICE USAGE IN IMPROVING COMMUNICATION WITH A VENTILATOR-DEPENDENT SPINAL CORD INJURY PATIENT

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OBJECTIVE

To report usage of an electronic eye tracker technology to allow communication in a ventilator-dependent spinal cord injury survivor.

CASE DISCUSSION

We present a case of utilizing an eye gaze-based assistive technology as a compensatory communication strategy in a mechanically ventilated patient with non-traumatic high cervical spinal cord injury. Ms A, a 20-year-old nursing student who was pre-morbidly well, had an extensive anterior cord syndrome following a spontaneous anterior spinal artery infarction, resulted in respiratory muscle paralysis and complete tetraplegia. Contrasted MRI of the spine revealed hyperintense signal from the cranio-cervical junction to T2 vertebral level. Her comprehension was intact; however, communication attempts were limited by high mechanical ventilation setting requirement via a tracheostomy tube. Her mood was affected, subsequently influenced ICU rehabilitation participation. She was given a trial of communication using a Tobii Eye Tracker that utilizes her eye movements to control mouse movements on a computer, allowing her to operate the keyboard and navigate the computer interface.

RESULTS

A 2-way-communication with attending medical practitioners was improved by this method. Allowing communication via this eye tracker technology had subjectively improved her mood, and positively impact her participation in ICU rehabilitation.

CONCLUSION

Acknowledging communication impairment as a source of depression is crucial in ensuring rehabilitation participation. An eye gaze-based assistive technology has been reported to have positive impacts on patients with motor neuron disease, Rett's syndrome, and non-verbal cerebral palsy, and should be considered in ventilator-dependent high cervical injury survivors.

KEYWORD

Eye tracker, communication, ventilated SCI

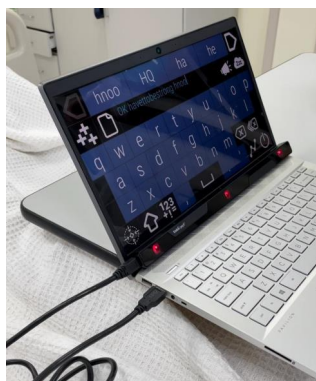


Image 1: This image illustrates Ms A operating the keyboard using an electronic eye tracker device attached at the bottom of the laptop screen.

9. A RECURRENT PAINFUL CORN ON AN ISLAND OF CALLUS IN A NON-DIABETIC PATIENT

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2) Department of Orthopaedic Surgery, University Malaya

INTRODUCTION

The presence of plantar corn and calluses are commonly associated with the abnormal mechanical pressure loading and repetitive friction of the foot. We present a case of intractable painful corn adjacent to a huge callus of the foot.

CASE DISCUSSION

A non-diabetic, 73-year old lady was referred for regular foot care evaluation and proper footwear after she underwent cryotherapy and incision and drainage of a recurrent inflamed corn over a huge callus of the right foot on separate occasions six months prior to current consultation. The chronicity and intractable nature of the hyperkeratotic lesion has led to further examination which yielded knee genu varus deformity of the same limb burdened by an overweight body mass. The abnormal biomechanical pressure loading of the right lower limb was demonstrated by a conventional foot imprinter. The symptoms of the inflamed corn were significantly reduced after being compliant with a lateral wedge shoe insole for approximately three weeks. She was also referred to orthopaedic division on possible intervention of knee deformity.

CONCLUSION

The persistence of a debilitating foot condition may be a tell-tale sign of another distant pathology.

KEYWORD

Corn,callus, osteoarthritis



10. FUNCTIONAL THUMB ORTHOSIS-IMPROVING HAND FUNCTION IN PATIENT WITH THUMB AMPUTATION

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BACKGROUND

Upper limb loss including hand and fingers amputation can be devastating and poses great impact on activity of daily life. Improvements and advances in prosthetic art over the years do not reflect in treatment of hand amputation. This article reports a case of partial hand amputation who benefited significantly with a simple, practical and easily made functional orthosis of the thumb.

CASE PRESENTATION

A right-handed 69-year-old man was admitted in hospital electively for surgery. The admission was complicated with sepsis and left acute upper limb ischaemia (AULI) due to thrombosed and contused left radial artery. A week later, he developed dry gangrene whereby Ray's amputation of left index finger and left thumb Interphalangeal joint disarticulation was done. 6 months after the amputation, patient was seen in amputee rehabilitation clinic UMMC with difficulties performing bimanual activities. The short left thumb resulted in difficulty with opposition, therefore he was not able to pick up and hold object well. We designed a simple extended thumb orthosis made of thermoplastic material. With this orthosis, the patient was able to perform left thumb opposition, which facilitated various activities: hold/pick up small and thin objects, holding bottle, bimanual hand function eg. holding newspaper, holding fork, squeezing toothpaste.

CONCLUSION

Thumb amputation can have great implication on hand function. A simple orthosis which can easily be made in the clinic setting can go a long way in improving patient's function in daily activities.

KEYWORD

Functional Orthosis, Thumb amputation

11. UPPER LIMB NERVE ENTRAPMENT- DIAGNOSIS DILEMMA

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BACKGROUND

Upper limbs peripheral nerve entrapment is a common presentation in patients. Median nerve entrapment symptoms are frequently attributed to the more common carpal tunnel syndrome(CTS) which is due to distal median nerve entrapment at the carpal tunnel. However, median nerve compression can happen throughout its course from proximal to distal. Proximal median nerve entrapment eg.Pronator Syndrome(PS) is frequently misdiagnosed/undiagnosed due to the lack of awareness of the condition.

CASE PRESENTATION

55-year-old man presented with worsening pain from rhomboid radiating down to the left hand, associated with numbness over medial nerve distribution. Pain was worse in cold weather and on movement and typing, with NRS 8/10. On examination, he had multiple trigger points over left upper trapezius/rhomboid region and numbness over left index and middle finger distal phalanx. Examination of his upper limb shows normal tone, reflex and full motor power. Sensation was reduced over distal phalanx of index and middle finger, with positive tincl signs at elbow, negative at wrist. Phalen's test and Durkan's test were negative. Ultrasound study done showed normal median nerve size at carpal tunnel, but increased size of median nerve 2cm above and 2cm below the elbow joint. He was diagnosed with Pronator Syndrome. Perineural injection therapy was done above and below elbow, patient reported improvement of numbness, NRS3 to 1.

CONCLUSION

Pronator Syndrome is not as common compared to CTS. However in patient with symptoms of median nerve compression, not responding to conservative/surgical treatment of CTS, diagnosis of PS must be considered and investigated.

KEYWORD

Nerve Compression, Pronator Syndrome

12. POSTERIOR KNEE PAIN-PAIN IMPROVEMENT FOLLOWING SCIATIC NERVE BLOCK

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BACKGROUND

Knee pain is a common musculoskeletal problem, especially in the aged population, and is associated with physical disability and reduced quality of life. Despite being less common compared to medial and anterior knee pain, significant number of patients with osteoarthritis is reporting posterior knee pain. Addressing and managing the pain can result in improvement in mobility and function.

This article reports a patient who presented with posterior knee pain affecting ambulation and function, with significant pain improvement following sciatic nerve block.

CASE PRESENTATION

66-year-old lady with bilateral knee osteoarthritis, presented with worsening right knee pain for a week. Pain was localized at the posterior aspect of the knee and was worse upon standing up from a sitting position and walking. Pain score was rated as 7-8/10, and with regular Non-steroidal Anti-inflammatory Drugs (NSAIDs), pain slightly improved to 4/10. Due to the pain, she was not able to walk well and had difficulty with her activity of daily living (ADLs). Examination of the knee showed mild tenderness at the medial joint line, no hamstring tightness, special tests (anterior/posterior drawer, valgus/varus, McMurray) negative. Ultrasound assessment showed osteophyte at medial tibial condyle, no Baker's cyst present, no fluid at popliteus tendon. Sciatic Nerve block with 1cc lignocaine 1% and 10cc of dextrose 5% was done. Post injection, patient reported complete resolution of pain and remained pain-free 6 weeks later.

CONCLUSION

Sciatic Nerve block is effective in patient with posterior knee pain to relieve pain, thereby improving mobility and function.

KEYWORD

Posterior knee pain, Sciatic nerve block

13. OSTEOPOROTIC FRACTURE IN SPINAL CORD INJURED PATIENT DURING THERAPY SESSION

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INTRODUCTION AND OBJECTIVES

Osteoporosis among spinal cord injury patients is a common complication. Loss of mechanical loading due to poor mobility causes increased osteocyte expressions, suppressed bone formation and indirect stimulation of bone resorption causing osteoporosis thus leading to increase risk of fracture. We present a case of osteoporotic fracture following trivial movement during therapy session.

CASE PRESENTATION

We present a case of a 38 years old gentleman with non-traumatic spinal cord injury with neurological level of C4 AIS A with good hand function since 2016 , with bilateral heterotopic ossification who underwent right hip disarticulation due to right hip fusion. Subsequently he was admitted to rehabilitation ward with the aim to improve sitting balance and endurance ,training on transfer technique. During his therapy session , as he tried to balance himself on the bed by pulling himself forward with the assist of bed rail, a loud audible ‘ pop’ sound was heard from his left lower limb. He did not complain of pain and there were no signs or symptoms of autonomic dysreflexia. Upon immediate examination no obvious deformity or bruises , palpable firm to hardness protuberance at proximal left thigh. Plain X-ray showed spiral fracture of left proximal femur. He was then referred to orthopedic team for further management. Patient underwent left femur open reduction and proximal femur plating.

CONCLUSION

Osteoporosis is a commonly known complication among spinal cord injury with increase risk of fracture following trivial movement or activity . Thus , physicians and therapists must be aware of this complication , and further investigations and prevention for those with higher risk .

KEYWORD

- Heterotopic ossification , osteoporotic fracture , spinal cord injury

14. REHABILITATION CHALLENGES IN PATIENT WITH APRAXIA- A CASE STUDY

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INTRODUCTION AND OBJECTIVES

Corticobasal degeneration is a degenerative disease that often presents with asymmetric progressive ideomotor limb apraxia. Apraxia is a neurological disorder characterized by the inability to perform learned (familiar) movements on command, even though the command is understood. We present a patient with corticobasal degeneration with parietal lobe syndrome and apraxia, and the rehabilitation challenges during inpatient stay.

CASE PRESENTATION

We present a case of a 71 years old female , retired teacher who was diagnosed with corticobasal degeneration. She presented with gradual decline in her functional activities of daily living (ADL) ; dressing , preparing meals, writing ,and driving. She does not have any limb weakness and able to ambulate independently without walking aid. She was admitted to rehabilitation ward with the aim to improve her personal activity of daily living (PADL) mainly on dressing , toileting and bathing and preparation of meal. On initial assessment, noted patient has agraphia on right hand , astereognosis on left hand , loss of 2 point discrimination , agraphia , acalculia , ideomotor apraxia and dressing apraxia. Following 3 weeks of inpatient rehabilitation stay, her functional outcome based on Modified Barthel Index (MBI) improved from 73 to 80. However , despite different approaches (restorative and compensatory) she still has difficulty in dressing. Other outcome measures upon discharge ; MMSE - 20/30 (impaired mainly on recall , and due to agraphia , acalculia , unable to do calculation, writing and copying segments) , BBS - 46/56 , 6MWT - 308 m (improved from initial 270m), TUG - 11 secs (improved from 12 secs) ,and 10MWT - 0.97 m/secs (improved from 0.92 m/secs)

CONCLUSION

This case study shows the rehabilitation challenges face despite different approaches due to the complexity of apraxia. In view of progressive nature of the disease , it is unknown if improvement made by patient can be sustained following discharge and if longer duration of intensive inpatient rehabilitation stay can benefit patient long term. The use of assistive technology or device to improve patient's outcome should be explored.

KEYWORD

Apraxia , corticobasal degeneration , rehabilitation approaches

15. SILENT BONY INVADER IN A CASE OF TUBERCULOSIS MENINGITIS

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INTRODUCTION

Neurogenic heterotopic ossifications (NHO) is the aberrant extraskeletal bone formation commonly associated with acquired brain or spinal cord injury. The objective of this case report highlights the possible factors to be considered for NHO in cerebral infections.

CASE PRESENTATION

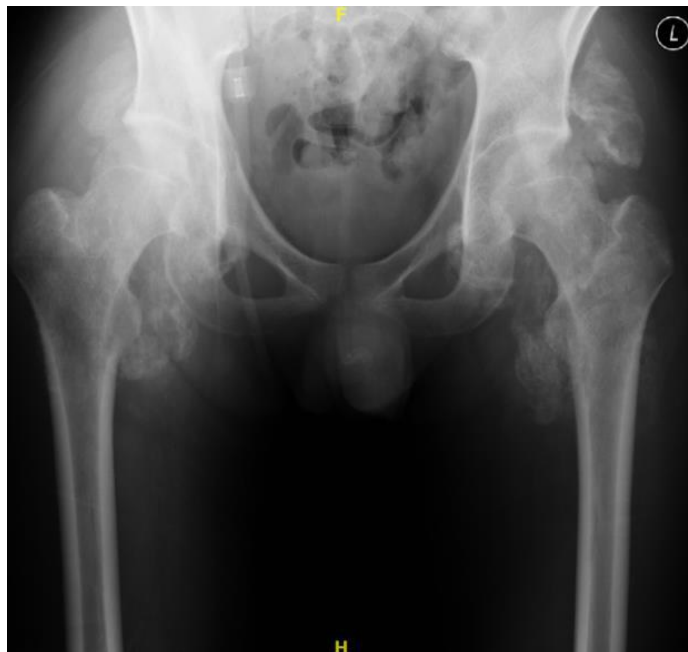
A 19-year-old boy was diagnosed with tuberculosis meningitis after he presented with an acute history of severe headache and fever associated with bilateral lower limb weakness and delirium. MRI brain His condition further deteriorated despite the commencement of empirical antibiotics and anti-tuberculosis medications. The persistently raised intracranial pressure was surgically intervened with an extraventricular drainage insertion a week after admission. He remained paraplegic with sensory deficit after his condition has stabilized. An incidental finding of NHO was detected during his intensive rehabilitation programme upon routine physical assessment demonstrated by the progressively limited passive range of motion of the hip bilaterally three months after admission.

CONCLUSION

The occurrence of NHO may be implicated in cases of severe cerebral infections with significant raised intracranial pressure and prolonged immobility.

KEYWORD

meningitis, heterotopic ossifications, cerebral oedema



16. A CASE OF METASTATIC HIDRADENOCARCINOMA AS A RARE CAUSE OF SPINAL CORD INJURY

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INTRODUCTION AND OBJECTIVES

Hidradenocarcinoma is a rare malignant tumour arising from sweat gland and accounts for less than 0.001% of all tumours. It is most common in head and neck region but can also occur in other parts of body. It mostly metastasizes to regional lymph nodes and distant viscera. To date, incidence of spine metastasis only can be found in a small portion of literatures. Surgical excision is the mainstay of treatment. This is a case of 48 years old Malay gentleman diagnosed with left axillary hidradenocarcinoma and metastasize to bone (cervical and thoracic vertebrae).

CASE PRESENTATION

He was initially planned for radiotherapy after surgical excision of tumour and left scapulotomy. However it was postponed as he had pathological fracture of T6 due to bone metastasis and suffered spinal cord injury at T6 AIS C paraplegia. Posterior instrumentation T4-T8 and decompression T6 was done and promptly underwent rehabilitation. He showed great improvement in his sitting balance, able to transfer to wheelchair independently and independent in personal activities of daily living (ADLs), bowel and bladder care.

CONCLUSION

A multidisciplinary team approach is required in managing a patient with a rare tumour. Clinicians should also maintain a high index of suspicion for rare causes of spine metastasis causing spinal cord injury.

KEYWORD

hidroadenocarcinoma, spinal cord injury, spine metastasis, rehabilitation

17. A CASE OF LATE ONSET HAEMORRHAGIC TRANSFORMATION IN AN ISCHAEMIC STROKE PATIENT FOLLOWING THE INITIATION OF LMWH AS THROMBOPROPHYLAXIS

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INTRODUCTION

Haemorrhagic transformation (HT) refers to a spectrum of ischaemia-related brain haemorrhage, often presenting within the first week.

CASE VIGNETTE

Mr G presented to the hospital with sudden onset left body weakness and slurred speech. Based on clinical findings and CT brain (CTB) at 10 hours of symptom onset, a diagnosis of right MCA territory infarct was made. Repeated CTB at 72 hours of symptom onset showed worsening mass effect (with no evidence of HT), however, there was no worsening in clinical symptoms. On day 8, low molecular weight heparin (LMWH) was commenced for thromboprophylaxis in view of his immobility. On day 19, he complained of sudden onset excruciating right temporal pain - repeated CTB showed HT at the infarct zone. LMWH was discontinued. He underwent neurorehabilitation and showed significant improvement in ADL independency, with Modified Barthel Index (MBI) score of 56 at fourth week, from the initial baseline score of 2.

DISCUSSION

Four subtypes of haemorrhagic transformation have been described: haemorrhagic infarction 1 & 2 (HI1 & HI2); parenchymal hematoma 1 & 2 (PH1 & PH2). Anticoagulant initiation may cause late onset HT. A majority of HT do not have debilitating effects on the clinical outcomes; mild to moderate HT may in fact represent a sign of successful vascular recanalization. Although anticoagulant therapy reduces thromboembolism, its initiation may lead to extracranial haemorrhage or PH2 subtype, which is found to be a significant predictor of neurological deterioration and higher mortality. Intermittent pneumatic compression (IPC) may instead be considered to reduce DVT risk and improve survival, as proven in CLOTS 3 trial.

CONCLUSION

Non-pharmacological thromboprophylaxis such as early mobilisation and IPC usage should be encouraged to reduce the risk of HT in stroke patients.

KEYWORD

haemorrhagic transformation, ischaemic stroke, anticoagulant, thromboprophylaxis

18. PROLOTHERAPY FOR PAIN IN ILIOCOSTAL FRICTION SYNDROME

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INTRODUCTION AND OBJECTIVE

Iliocostal friction syndrome (ICFS) is a rare painful condition due to friction of lower ribs against iliac crest leading to irritation of soft tissues in contact with these structures. Structures damaged by iliocostal friction includes the inserting tendons and muscles. The treatment for ICFS mentioned in literature are rib compression belt, orthosis, prolotherapy and surgical removal of lower ribs. This case report illustrates the use of prolotherapy in pain management for ICFS.

CASE PRESENTATION

This is a case report of an 82-year-old lady with degenerative thoracolumbar scoliosis and osteoporotic vertebral compression fracture of L1. She presented with clinical features of ICFS. Her main complaint was severe pain at right pelvic region with standing and walking. Prolotherapy was done at the tender area of right iliac crest and right lower rib with ultrasound guidance for pain relief. Prolotherapy was done using 4cc hypertonic dextrose 12.5% and 1cc 1% lignocaine. 2.5cc of this solution deposited at tender area of right iliac crest and right lower rib each. Procedure was done under ultrasound guidance. Significant pain relief reported by patient which is measured by Numerical Rating Scale (NRS). The effect of pain relief persists one month post injection.

CONCLUSION

Prolotherapy with hypertonic dextrose 12.5% and 1% lignocaine HCl is an effective treatment for pain cause by irritation of inserting tendon at the iliac crest and lower rib in ICFS.

KEYWORDS

iliocostal friction syndrome, prolotherapy, pain management

19. NERVE HYDRODISSECTION: A THERAPEUTIC INJECTION FOR COMPLEX REGIONAL PAIN SYNDROME

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INTRODUCTION AND OBJECTIVE

Complex regional pain syndrome (CRPS) is diagnosed based on International Association for the Study of Pain (IASP) diagnostic criteria. In Type I CRPS there is no evidence of nerve injury while in Type II CRPS there is demonstrable nerve injury. Peripheral nerve entrapment is one of the components that contribute to severe, disproportionate pain in CRPS. Nerve hydrodissection is a perineural injection aimed to decompress the entrapped nerve. The objective of this case report is to evaluate the effect of nerve hydrodissection in pain management for CRPS.

CASE PRESENTATION

A 38-year-old gentleman who presented to Advanced Pain Care Rehabilitation (APCR) clinic with severe left foot pain that persisted for more than a year after sustaining open fracture distal third left tibia and fibula with anterior tibialis tendon cut two years ago. Clinically, he met the IASP diagnostic criteria for CRPS. Pharmacological treatment with gabapentin, pregabalin and tramadol failed to alleviate his pain. His severe pain limits the use of physical modalities and desensitization technique. Thus, hydrodissection of left common peroneal nerve (CPN) was done for pain relief. Hydrodissection of left CPN done with 1cc 1% lignocaine HCl (50mg in 5ml), and 10cc dextrose 5% with ultrasound guidance. Left CPN was chosen because clinically the pain mainly involved distribution of this nerve. Pain relief effect is measure by Numerical Rating Scale (NRS). The procedure reduced the pain from NRS 10 to 7.

CONCLUSION

Nerve hydrodissection is a treatment option for neuropathic pain management in CRPS with clinical evidence of nerve entrapment.

KEYWORDS

complex regional pain syndrome, nerve hydrodissection, pain management

20. THE ROLE OF PERIPHERAL MOTOR NERVE BLOCK IN MANAGEMENT OF POST STROKE UPPER AND LOWER LIMB SPASTICITY: A CASE SERIES

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INTRODUCTION AND OBJECTIVE:

Spasticity is a common complication after stroke. This study is aimed to assess the efficacy and practicality of peripheral motor nerve block in a local physical medicine and rehabilitation setting for management of post stroke spasticity.

METHODOLOGY:

Three patients with post stroke spasticity (more than one year) involving either the upper or the lower limb were recruited. Two candidates received peripheral motor nerve block injection to the upper limb and one patient received it to the lower limb. One patient received exclusive peripheral motor nerve block only, while the other two received peripheral motor nerve block followed by botulinum toxin injection. All procedures were conducted in outpatient clinic settings. Lignocaine and Bupivacaine were the agent of choice, administered directly to perineural area under ultrasound guidance. Spasticity scoring is measured according to Modified Ashworth Scale and Modified Tardieu Scale at pre and post procedure, as well as on subsequent clinic follow up.

RESULT:

All three candidates show positive improvement in spasticity immediately after the procedure. On subsequent assessment, the patient who received exclusive peripheral motor nerve block without botulinum toxin had lasting effect up to three months. While the other two patients who received both peripheral motor nerve block and botulinum toxin injection has potentially longer lasting effect. There was no reduction in motor strength related to the procedure.

CONCLUSION

Peripheral motor nerve block could be a viable option for post stroke spasticity management. On case to case basis, it could be considered as an alternative to botulinum toxin or could be administered together with potential synergistic effect. It might also serve as diagnostic tool for differentiating spasticity from contracture.

KEYWORDS

peripheral motor nerve block, spasticity

21. A CASE REPORT OF HETEROTROPHIC OSSIFICATION AS A RARE COMPLICATION POST STROKE

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INTRODUCTION

Heterotopic ossification (HO) is a formation of lamellar bone in tissues outside the skeleton. It is a well-described phenomenon in patients with spinal cord injury, head injury, burns, hip replacement, and general trauma. It is rarely reported after non-traumatic neurological disorders. We present a case of a 43-year-old man developing an unusual presentation of right hip HO, 3 months after diagnosed with left middle cerebral artery infarct.

CASE PRESENTATION

This is a case of 43 years old gentleman with underlying valvular heart disease with history of mechanical mitral valve replacement who initially admitted into Institut Jantung Negara(IJN) for electrophysiology study and radiofrequency for atrial flutter with variable block. During the procedure, he developed jammed mitral mechanical prosthesis and underwent urgent mitral valve replacement. Upon waking up from the surgery, he presented with right dense hemiparesis and global aphasia. CT scan of the brain demonstrated extensive left middle cerebral artery territory infarct. During the stay in IJN, he also had right empyema thoracis which required right thoracotomy decortication and prolonged ICU stay. After 3 months post stroke, he was referred to Pusat Perubatan Universiti Malaya(PPUM) for inpatient rehabilitation Upon admission for inpatient rehabilitation, he complained of pain upon moving on his right hip joint. His right lower limb was in externally rotated and abduction at hip joint. Right knee range of movement was normal. He also has right dense hemiplegia with global aphasia. Radiographs show soft tissue calcifications over the right hip joint and proximal femur (Figure 1 and 2). His ALP was 245 IU/L and CRP level was 19.45 mg/L . Due to the right hip HO, his bed mobility, transfer and ambulation significantly affected which required assistance from his carer. He was treated symptomatically with non-steroidal anti inflammatory(NSAIDs) for analgesia however, was withheld due to concern for fluid overload. Gentle passive range of movement exercise also carried out to improve the joint range. Due to limited range of movement and pain over his right hip joint, it was decided that he would gain little benefit from active inpatient rehabilitation. Carer training was done and he was discharged with appropriate analgesia and home exercise plan. During clinic follow-up , excisional surgery was offered, however, family member not keen at the moment .

CONCLUSION

This case demonstrates a rare complication of heterotrophic ossification after stroke. Young men with severe vascular insult,cognitive impaired, history of invasive ventilation and immobility are at risk of developing HO and therefore early diagnosis is vital in these groups as earlier treatment can be instituted in preventing ankylosis and significant effect to the functional recovery. Once lesion matures, the only curative management is resection.

KEYWORDS Heterotrophic ossification, post stroke

22. PERINEURAL STEROID INJECTION IMPROVES PROSTHESIS ACCEPTANCE IN TRANSRADIAL AMPUTEES.

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INTRODUCTION AND OBJECTIVES

Post amputation neuroma is a tumor like thickening of the nerve end at the site of scar causing painful stump and affecting patient compliance on prosthesis usage. We present 2 cases of patient with painful stump neuroma improved when treated with perineural steroid injections.

CASE PRESENTATION

Mr. S 55 years old male, post traumatic left transradial amputation was referred to rehabilitation medicine clinic for prosthesis restoration. However, patient had severe throbbing and electric shooting pain over his stump with Numerative Rating Score (NRS) of 5-6/10. Despite on T. Gabapentin 300mg ON, NRS not improving. Perineural injection, 1ml Triamcinolone acetate 10 mg with 0.5ml lidocaine 1% given at left radial nerve neuroma and NRS improved to 1-2/10 and it sustained till 3 months post follow up and ready for prosthesis usage.

Mr J, 41 years old male with Diabetes Mellitus, had left transradial amputation secondary to infected diabetic forearm wound, had severe resting stump pain. The pain was described as numb, sharp and throbbing in nature with NRS 10/10. T. gabapentin 300mg TDS was started but not effective hence ultrasound guided perineural injection of 1ml Triamcinolone acetate 10 mg with 0.5ml lidocaine 1% was given at each neuroma (radial, median and ulna). Post injection patient was happy, and pain score 0- 1/10 sustained after 2 months post injection.

CONCLUSION

Ultrasound guided perineural steroid injection is effective, cheap and has sustainable effect on pain control for stump neuroma.

KEYWORDS

Perineural injection, stump neuroma, transradial amputation

23. CANCER REHABILITATION IN A PATIENT WITH SOLITARY BONE PLASMACYTOMA OF THE SPINE DURING TREATMENT PHASE OF CANCER

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OBJECTIVE

Incorporating cancer rehabilitation during treatment phase of cancer in a patient with solitary bone plasmacytoma of the spine.

METHODS

We present a case of a 61 years old gentlemen with underlying hypertension and diabetes mellitus who presented with 4 days history of gradually worsening bilateral lower limb weakness associated with numbness from lower chest downwards. On the day of admission patient was unable to ambulate. No signs of urinary or bowel dysfunction. His upper limb neurological examination was normal. Bilateral lower limb examination showed normal tone and reflexes. Total lower extremity motor score was 48 with impaired proprioception. Magnetic resonance imaging of the spine (MRI) showed soft tissue mass involving the T4 and T5 vertebral bodies with mediastinal and epidural extension. Patient underwent a biopsy of the lesion which resulted as a plasma cell neoplasm; however, he did not have marrow involvement or other end organ damage. A final diagnosis of solitary bone plasmacytosis was made. He was planned for radical radiotherapy at T4, T5 for 25 fractions. The rate of progression to multiple myeloma is 10% in the next 3 years for this patient. Due to his fairly good prognosis, patient was then planned for cancer rehabilitation with restorative aim.

RESULTS

Patient was transferred to rehabilitation ward during ongoing treatment planning. His Spinal Cord Independence Measure (SCIM) on admission was 22. At week 2 of rehabilitation; radical radiotherapy to his spine was initiated. He was able to tolerate radiotherapy and participate in therapy. He was then discharged at week 3 of rehabilitation with a SCIM of 61 and continued radiotherapy as outpatient.

CONCLUSION

At each phase of malignancy there is a role to be played by the Rehabilitation team in improving or maintaining the quality of life of a cancer patient.

KEYWORDS

Cancer Rehabilitation; Solitary bone plasmacytoma; Treatment phase of cancer

24. CAN A KIND DIET TURN UNKIND? A RARE PRESENTATION OF NEUROPATHIC ULCER

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2)Hospital Rehabilitasi Cheras, Kuala Lumpur

INTRODUCTION

Peripheral Neuropathy is a disabling foot condition that can result in painless ulcer formation. The commonest cause of neuropathic ulcer is uncontrolled diabetes mellitus. Other causes include systemic infection, metabolic, toxins and nutrition malabsorption following bariatric surgery.

CASE PRESENTATION

We present a case report of a gentleman who developed chronic distal asymmetrical peripheral neuropathy with recurring ulcer on his right foot to our multidisciplinary footcare clinic. He was diagnosed to be normoglycaemia and has no relevant surgical interventions. After a thorough assessment, he was found to have an incomplete nutritional intake following a strict vegan diet for more than 15 years. His blood assay revealed a microcytic hypochromic anaemia with low B12 level. A gradual improvement and healing in the neuropathic ulcer was observed over a period of three months after undergoing a series of total contact casting, appropriate nutritional supplementation, and comprehensive multidisciplinary management.

CONCLUSION

This is a unique case of nutritional vitamin B12 deficiency symptomatic state with distal asymmetrical peripheral neuropathy with neuropathic pain and insensate foot which eventually led to development of neuropathic ulcer. It is a preventable condition considering Malaysia is no longer in food crisis post-independence when access to adequate nutrition is considered a scarcity. However, in individuals who opted for a strict vegan diet should seek medical consultation so that they can be supplemented accordingly. We suggest routine screening of full blood count and foot assessment in this population.

KEYWORDS

foot ulcer, multidisciplinary, vitamin B12

25. REHABILITATION CHALLENGES IN BILATERAL TRANSMETATARSAL AMPUTATION: PROSTHESIS OR ORTHOSIS?

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INTRODUCTION & OBJECTIVES

Transmetatarsal amputation was described by McKittrick k et al. in 1949 for management of diabetic foot ulcers. It is an alternative to transtibial amputation in a carefully selected population of patients. Transmetatarsal amputation aim to perverse as much of limb length as possible in order to allow early mobilization and optimize limb function. Common complications are poor wound healing, surgical site infection and ankle plantarflexion deformity. Transmetatarsal prostheses and orthoses vary in design and principle.

CASE PRESENTATION

We present a case of a 59 years old gentleman, no known medical illness who was involved in motor vehicle accident in 2008 and developed dry gangrene over bilateral feet and left hand due to prolonged inotrope usage. He underwent bilateral transmetatarsal amputation. He is a non-diabetic and did not experience the usual complications associated with partial foot amputations. Initially bilateral ankle foot orthosis with toe fillers was prescribed. However, patient was not compliant due to pain. Prescription was changed to bilateral silicone partial feet prosthesis with semi-rigid foot plate and toe filler. Patient's compliance improved, his pain at stump resolved and he was able to lead an active lifestyle. Clinical testing showed that patient's forward balance was impeccable with the prosthesis when compared to his balance without the prosthesis.

CONCLUSION

Silicone partial feet with semi-rigid foot plate and toe filler ensured better compliance in this patient due to acceptable in appearance, user friendly and provide good relief in high-pressure points. We highlight the changes in gait biomechanics and postural balance resulting from an altered toe lever.

KEYWORDS

transmetatarsal amputation, prosthesis, orthosis

26. RADIAL TUNNEL SYNDROME – A CASE REPORT

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INTRODUCTION

Radial tunnel syndrome (RTS) is a compressive neuropathy of the posterior interosseous nerve (PIN) at the proximal forearm. Patients normally present with deep aching pain in dorsoradial proximal forearm and lateral elbow with no muscle weakness. The symptoms of RTS can often be confused with lateral epicondylitis. To diagnosis RTS, it is based on clinical examination as electrodiagnostic studies are inconclusive. Treatment involves aggressive conservative approach that readily uses minimally-invasive interventions to address the pain generator.

CASE PRESENTATION

A 53-year-old lady with underlying Diabetes Mellitus and Hypertension, presented with pain over right lateral elbow and extensor aspect of forearm. She was initially treated as right lateral epicondylitis. However, pain did not improve with Non-steroidal Anti-inflammatory Drugs, physical modalities and physiotherapy. Pain score was 0 at rest but 8 on certain movements, especially upon cutting food with a knife. Upon reassessment, there was tenderness at right radial tunnel region specifically at the Arcade of Frohse and distal edge of supinator muscle. Pain was reproduced upon supination against resistance and resisted extension of middle finger. Ultrasound assessment showed loss of normal muscle architecture of right supinator. Her diagnosis was then revised as right radial tunnel syndrome. Dry needling of right supinator was done under ultrasound guidance and patient's pain improved from NRS 7 to 2.

CONCLUSION

There are various causes of forearm pain and RTS can frequently be missed due to the close resemblance to other musculoskeletal conditions. Therefore, it is important to be on vigilant lookout for this mimic of musculoskeletal condition.

KEYWORDS

radial tunnel syndrome, dry needling, musculoskeletal mimic

27. SUPRASCAPULAR NERVE BLOCK FOR HEMIPLEGIC SHOULDER PAIN: A CASE REPORT

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INTRODUCTION AND OBJECTIVES

Post-stroke shoulder pain or hemiplegic shoulder pain (HSP) is a common complication of stroke and can impede rehabilitation and has been associated with poorer outcomes and prolonged hospital stay. Pathologies underlying hemiplegic shoulder pain can broadly be classified into neurological (paralysis, spasticity, altered sensation and neuropathic pain) and mechanical factors (shoulder subluxation, soft tissue injuries such as rotator cuff tears, bicipital tendonitis, muscle imbalance, weakness and altered scapula position) factors which can occur separately or simultaneously.

CASE PRESENTATION

We present a case of a 50 years old gentleman, currently post stroke 4 months for left thalamic hypertensive bleed, and has been having right shoulder pain since 1 month post stroke. The pain is mechanical in origin that comes on with movement. It interferes with his sleep and therapy sessions. Rotator injury was suspected and ultrasound of his right shoulder revealed partial tear of the supraspinatus and subscapularis tendons. Right suprascapular nerve block (SSNB) was performed with the aim to reduce pain and allow pain free range of motion (ROM) for functional and therapeutic activities. Post injection, he reported a pain reduction of more than half (NRS 8 to 3). His sleep quality and shoulder ROM improved as well.

CONCLUSION

Rotator cuff injury in hemiplegic shoulder pain is not uncommon. The use of ultrasound to assist in its diagnosis is appropriate and reliable. SSNB is an effective and safe treatment option for HSP.

KEYWORDS

hemiplegic shoulder pain, post stroke shoulder pain, suprascapular nerve block, rotator cuff injury

28. ECLECTIC APPROACH IN POST-STROKE APHASIA REHABILITATION: A CASE SERIES.

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INTRODUCTION

Aphasia is one of the commonest and disabling neurological consequences of stroke which require rehabilitation therapy. A therapeutic approach known as eclectic therapy combines multiple methods drawn from various therapeutic principles to develop the most ideal intervention program which specifically targets the patient's needs.

OBJECTIVES

In this case series, we would like to assess and share the outcome of the eclectic approach for post-stroke aphasia rehabilitation.

METHODS

Eclectic approach was used for three post-stroke aphasia patients who underwent inpatient intensive speech rehabilitation program. This eclectic approach incorporates three therapeutic methods which are speech and language therapy (SLT), non-invasive brain stimulation (NIBS) and neuropharmacology. Each patient received a series of transcranial direct current stimulation (tDCS) combined with SLT session and was prescribed with neuropharmacology agent (piracetam, memantine or NeuroAiD II). Progress in different components of speech and language training throughout the intensive speech rehabilitation program were assessed and recorded at each session by speech and language therapist.

RESULTS

The outcome is mixed, however each patient showed unique improvement in different components of speech and language assessment. There was no major adverse effect reported.

CONCLUSION

Integrating eclectic approach in clinical practice can be considered in post-stroke aphasia rehabilitation for those who are not contraindicated. Beneficial outcomes seen in these cases might be due to potential synergistic effects of different elements in eclectic approach.

KEYWORDS

Eclectic approach, non-invasive brain stimulation, NIBS, transcranial direct current stimulation, tDCS, neuropharmacology, speech and language therapy, SLT, stroke, aphasia

29. CLINICAL AUDIT ON HYBRID CARDIAC REHABILITATION PROGRAM IN HTAR

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BACKGROUND

Cardiac rehabilitation/secondary preventive programs are recognised as essential elements to the comprehensive care of patients with cardiovascular disease. Such programs are recommended effective by AHA and the American College of Cardiology in the treatment of patients with coronary artery disease and chronic heart failure. Since the emergence of COVID-19 pandemic, most cardiac rehabilitation programs were suspended worldwide to maintain physical distancing. Virtual-home based cardiac rehabilitation offers an alternative mechanism of care delivery, capable of providing similar patient outcomes and safety profiles compared with centre-based programs.

OBJECTIVES

The primary objective is to describe Hybrid Cardiac Rehabilitation Program (CRP) in HTAR. The secondary objective is to describe the challenges faced during the program.

METHOD

2 subjects enrolled in our outpatient Hybrid CRP. Inclusion criteria include stable IHD, NYHA I-II, low to moderate risk patients, motivated, has access to technology and internet connection. Subjects were first assessed face-to-face by the rehabilitation team members, followed by weekly participation for 6 weeks. In this 6-weeks program, 3 physical sessions were held in HTAR while 3 sessions were home-based virtual sessions. Outcome measure used include 6-minute walk test (6MWT). After completion of the 6 weeks program, the patients were reviewed again for re-assessment face-to-face at 3 weeks and 3 months.

RESULTS

Both subjects successfully completed the program. Despite few challenges faced, both subjects reported positive feedback.

CONCLUSION

Hybrid CRP is feasible and can act as alternative method to cardiac rehabilitation service delivery during COVID-19 pandemic with solutions to address challenges.

KEYWORDS

Hybrid, Cardiac Rehabilitation, CRP

30. PERCEPTION ON HOME THERAPY PROGRAM: A QUALITATIVE STUDY AMONG PARENTS WITH CEREBRAL PALSY CHILDREN

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BACKGROUND AND OBJECTIVES

Prescription of exercises and activities as a home program is part of rehabilitation standard care for children with cerebral palsy. The primary focus will be the prevention of complications and promote individualized goal achievement by targeting neuroplasticity. Objective of this study is to explore parents' perception on home therapy and to identify facilitating factors and barriers to it.

METHOD

This is a qualitative research, utilizing in-depth interviews, conducted among twelve mothers and three fathers of total fifteen children with cerebral palsy. We included both ambulant (GMFCS II-III) and non-ambulant (GMFCS IV-V) aged four to fifteen years old. Audio recording of the interview transcribed verbatim followed by thematic analysis to obtain

RESULTS

Results: 42 codes derived from data. Two themes identified that explains parent's perception namely, home therapy is series of therapeutic exercises that learned from therapist and practiced at home and home therapy gives positive and negative experience to both parents and children. As for the facilitating factors, two themes identified which are goal directed positive attitude and external support system. This study has explored valuable modifiable and non-modifiable barriers respectively limited external support system and physical, psychological health condition of both parent and child as well as limitation in time as barrier to participate in home therapy.

CONCLUSION

Home therapy consists of therapeutic exercises and activities targeting physical and functional improvement. Parents were able to incorporate home therapy to meet the requirement of intensity to sustain the effect. Commonly practised exercise is stretching and need to be done persistently to sustain the effect. Mothers appear more emotional and stress but played major role in home therapy who express external support system as main limitation.

KEYWORDS

home therapy, program, cerebral palsy, children

31. 'MORE THAN JUST CHEST PAIN': A CASE REPORT ON PARAPLEGIA SECONDARY TO SPINAL CORD INFARCTION FOLLOWING AORTIC DISSECTION

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INTRODUCTION

Acute aortic dissection is the most common cause of death among all aortic pathological conditions. In cases of aortic dissection, the layers of the media are dissected by a column of blood through an intimal tear. Risk factors including hypertension (HPT), atherosclerotic disease, male gender, connective tissue disorders and bicuspid aortic valve. Pain is the most common symptom. In rare occasions, acute paraplegia can manifest mainly if the intercostal arteries are involved by the aortic dissection.

METHOD

A case report of a patient with paraplegia following aortic dissection.

CASE REPORT

Mr. LN, 59 years old Chinese gentleman with underlying HPT and ischaemic heart disease (IHD) presented to Emergency Department (ED) with complaint of sudden onset of central chest pain while eating breakfast. not relieved by resting and associated with bilateral lower limb weakness and heaviness. He was unable to stand without support but no urinary or bowel incontinence. No history of bluish discoloration of the toes. Upon arrival in ED chest pain worsen and radiates to his lower back. Lower limb numbness becomes prominent after arrival in ED and examination shows reduce motor power on both lower limb. CTA reveals extensive dissection, true lumen ended at L3 level, false lumen supplying left kidney, distal aorta and its branches, with intraaneurysmal thrombus extending to bilateral common iliac arteries. While MRI spine shows spinal cord infarct from T8 until conus.

CONCLUSION

Aortic dissection should be considered as cause of spinal cord infarction in patient with severe chest pain and paraplegia.

KEYWORDS

paraplegia, spinal cord infarction, aortic dissection

32. CARDIAC MYXOMA CAUSING ISCHAEMIC STROKE

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INTRODUCTION

Cardiac myxoma is the most common benign tumor of the heart. Clinically myxoma manifests in signs of systemic embolism, intracardiac flow obstruction, or associated constitutional symptoms. Early emboli detection and urgent surgical intervention resulted in good functional recovery.

METHOD

A case report on ischemic stroke in young woman following cardiac myoma.

CASE REPORT

A 26-year-old female patient without conventional stroke risk factors presented to the Emergency Department with sudden onset right sided hemiparesis, facial asymmetry, and shortness of breath. CT Brain showed hypodense lesions in the territory of the left middle cerebral artery. Patient was intubated for impending respiratory distress. To determine the aetiology of the stroke, urgent echocardiography was performed which showed the presence of a large myxoma in the left atrium. The patient underwent open heart surgery with myxoma excision to prevent further embolic events. After several weeks of intensive neurorehabilitation with cardiac precaution, the patient was able to walk with aid and Modified Barthel Index of 81 on discharged. One year later, repeated echocardiography showed no recurrence of left atrial myxoma and patient is independent of personal and community activity daily livings.

CONCLUSION

Cardiac myxoma stroke is rare and often it affects young females. Urgent echocardiography is required for young stroke patients to determine the stroke of a cardiac origin. Embolic ischemic stroke is the most common neurological complication and should be suspected in cases of stroke in young especially in the absence of conventional risk factors.

KEYWORDS

Ischemic stroke, middle cerebral artery, left atrial myxoma.

33. FACTORS ASSOCIATED WITH GOOD OUTCOME AND QUALITY OF LIFE IN PATIENTS WITH ANEURYSMAL SUBARACHNOID HAEMORRHAGE – A PROSPECTIVE COHORT STUDY

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INTRODUCTION

Recent advancements in treatment of aneurysmal subarachnoid haemorrhage (aSAH), including improved critical and intensive care, have resulted in reduced mortality rates

OBJECTIVES

To identify factors associated with good functional outcome and quality of life (QoL) in patients with aneurysmal subarachnoid haemorrhage (aSAH).

METHODS

This prospective cohort study was conducted at a tertiary university hospital. 20 patients surviving acute phase of aSAH between August 2017 and August 2018 participated. Baseline data was obtained via in-person interview and electronic medical records. Patients were followed up at 3, 6 and 12 months and subjected to functional outcome (Glasgow Outcome Scale Extended (GOS-E), Modified Rankin Scale (mRS) and Modified Barthel Index (MBI)) and QoL (SF-36) questionnaires.

RESULTS

Majority of patients showed good recovery (GOS-E 5-7), no disability (mRS 0-1) and independent ADL (MBI 100). Improvement in functional outcomes was most significant at 3 and 6 months. Bivariate analysis showed mRS at 12 months is related to Glasgow coma score (GCS) ($p=0.012$) and World Federation of Neurological Surgeons (WFNS) classification ($p=0.045$). MBI at 3 months is related to length of stay ($p=0.048$), GCS ($p=0.024$), WFNS ($p=0.015$) and Fisher grading ($p=0.018$). QoL at 6 months was related to GCS ($p=0.035$) and WFNS ($p=0.005$) for physical functioning; general health is related to Fisher grading ($p=0.045$). At 12 months, WFNS is associated with role limitation (RL) due to physical health ($p=0.030$); Fisher grading with RL due to emotional health ($p=0.004$) and social functioning ($p=0.033$); and education level with emotional well-being (Monte-Carlo sig 0.032, 95% CI 0.028-0.035).

CONCLUSION

Most patients achieve good functional outcome following aSAH. Clinical severity and length of stay are related to long-term functional outcome and QoL.

KEYWORDS

Aneurysmal subarachnoid haemorrhage, functional outcome, quality of life

34. GOOD FUNCTIONAL OUTCOME FOLLOWING POST-COVID 19 PULMONARY REHABILITATION- A CASE REPORT DS. Selvarajoo1, Li-Shun Chua¹

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OBJECTIVES

Post-Covid-19 complications include a wide array of morbidities including physical deconditioning. The objective of this case report is to demonstrate the role of pulmonary rehabilitation in improving exercise tolerance and functional outcome.

METHODS

A 69-year-old man presented with shortness of breath to the emergency department. He was recently treated for category five Covid-19 infection and discharged only ten days prior. Workup showed post-Covid-19 pneumonia complicated with right pneumothorax. Following acute management, he was totally carer dependent. He complained of fatigue and shortness of breath on exertion, which limited his participation in therapy. Therefore, his inpatient intensive rehabilitation program was focused on pulmonary rehabilitation. This included respiratory muscle training and secretion management. Improvement in pulmonary function corresponded with reduced fatigue which allowed him to participate in functional and physical training. He made good progress and was discharged with Modified Barthel Index of 56/100 (moderate dependency) and able to ambulate with walking frame.

RESULTS

Covid-19 pneumonia causes diffuse alveolar damage resulting in poor respiratory function. Pulmonary rehabilitation improves secretion management, lung volumes and FEV1; this in return reduces exertional dyspnea. This enabled the patient to participate in cardiovascular conditioning and strengthening exercises to further improve exercise tolerance and reduce fatigue. It also improved functional outcome and independence in ADL.

CONCLUSION

Pulmonary rehabilitation improves exercise tolerance and participation in other aspects of rehabilitation. It is an integral part in post-Covid-10 rehabilitation to ensure good functional outcome.

KEYWORDS

Covid-19, functional outcome, pulmonary rehabilitation

35. MULTIFACTORIAL POLYNEUROPATHY POST-COVID-19 INFECTION AND ITS IMPACT ON REHABILITATION

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OBJECTIVES

Polyneuropathy is a known complication of Covid-19 infection. This case report highlights its multifactorial nature and significance in post-Covid-19 rehabilitation.

CASE PRESENTATION

A 24-year-old woman with underlying Type 1 diabetes mellitus (T1DM) and Graves' disease, presented with nausea, vomiting and heat intolerance. Her workup was suggestive of diabetic ketoacidosis secondary to thyrotoxicosis. She developed persistent fever, breathlessness and was intubated on day nine of admission. Covid-19 PCR test was positive and she was diagnosed with category five Covid-19 infection. She was initiated on IV methylprednisolone, tapering doses of prednisolone for organising pneumonia and required percutaneous tracheostomy. Later, she complained of bilateral shoulder pain, numbness and weakness of all limbs. Neurological examination showed lower motor neuron pathology with proximal weakness and right foot drop. She was treated for critical illness polyneuropathy (CIP). The patient underwent active inpatient rehabilitation for three weeks. Subsequently her T1DM and thyroid function normalised; her tracheostomy tube was removed; she attained independence in personal ADL; and achieved ambulation with walking stick and right ankle-foot orthosis.

RESULTS

This case describes CIP, a common cause of neuromuscular weakness in the intensive care setting. This patient had hyperthyroidism and uncontrolled T1DM which cause proximal muscle weakness and sensory impairment. Corticosteroids for treatment of severe Covid-19 result in steroid myopathy while prolonged immobilisation causes muscle atrophy and weakness. These factors make post-Covid-19 rehabilitation challenging but necessary to optimise functional recovery.

CONCLUSION

Covid-19-associated polyneuropathy and myopathy are multifactorial. Control of medical conditions and active rehabilitation are essential in a patient's recovery.

KEYWORDS

Covid 19, neuromuscular rehabilitation, polyneuropathy

36. CLINICAL AUDIT ON COMPLIANCE OF A MALAYSIAN HEALTH INFORMATION DATA WARE HOUSE (MY HDW) AMONG PHYSIOTHERAPIST IN HOSPITAL TAIPING (JAN-FEB 2020)

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INTRODUCTION AND OBJECTIVES

HDW (SMRP) is a center where all the health information kept. This system has the potential to supply key data and information for the optimal running of the health system, health surveillance and research.To achieve compliance of SMRP among physiotherapist in Hospital Taiping above 95 % with data Per SS 203

METHODS

This is a clinical audit where have three phases. Phase 1 audit 1 will be done to all physiotherapist who work in Physiotherapy Department Hospital Taiping on their differences of number between data Per SS 203 with data My HDW (SMRP) (Jan-Feb2020). Next step will intervention will be carried out which record on encounter number for every patient that been treated by each therapist in Physiotherapy DepartmentHospital Taiping. The third phase will be audit 2 will be done where to identify the compliance of My HDW(SMRP).

RESULTS

January 2020 differences of compliance was 447. February 2020 the differences compliance was 228. After intervention done, data on April 2020 compliance only difference of 1% while May 2020 was 100% compliances of MYHDW (SMRP).

STRATEGY OF CHANGE

Physiotherapist in Hospital Taiping need to record on encounter number for every patient that been treated in a note book daily. Audit was carried out every week to monitor the data SMRP same as in Per SS 203.

CONCLUSION

The Compliance of key in data SMRP was successful and able to achieve the KPI.

37. A TALE OF TWO ORTHOSES: WHAT FACTORS ENFORCED THE DECISION?

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ABSTRACT

The increase in foot plantar pressure causes chronic diabetic foot ulcers which are prone to infection to undergo slow healing and would eventually lead to severe consequences. Many methods were proposed to relieve pressure and promote successful wound healing. The objective of this clinical case report is to justify the selection of patellar tendon bearing ankle foot orthosis (PTB AFO) over the Aircast XP diabetic walker. A 45-year-old lady with underlying diabetes mellitus, morbid obesity and stroke, presented with Charcot foot arthropathy. Features of this case are discussed together with the suitability of different orthoses which are available in Malaysia. Due to the complexity of the patient's problems, it is challenging to decide the most suitable orthosis for this patient. In conclusion, the treatment plan was to prescribe PTB AFO as it meets the functional and social requirements of the patient compared to Aircast XP diabetic walker.

KEYWORDS

Charcot foot, diabetic foot ulcers, Aircast XP diabetic walker, patellar tendon bearing ankle foot orthosis.

38. STEP DOWN STROKE PROGRAMME HOSPITAL RAJA PERMAISURI BAINUN: CLINICAL AUDIT REPORT

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INTRODUCTION

The first six months post stroke are the most important for recovery whereby the individual is primed for maximal gains. Unfortunately, this window of recovery starts to plateau after 1 year. Individuals whom are not confident for discharge when there is no more potential for recovery need to be addressed.

OBJECTIVES

Main objective of the step down stroke programme is for community integration by empowering stroke patients. Secondary objective is to reduce the patient load in rehabilitation medicine clinic, physiotherapy unit and occupational therapy unit. Thirdly to give intensive, one-stop therapy on secondary prevention of stroke, medication and diet education, adaptation to activity of daily living and mobility training.

METHODS

The step down stroke programme is a group therapy session of 10 patients per session, with a total 10 sessions , every fortnight. This consists of 3 hours per day that includes one outdoor session using existing staff at no additional cost. Inclusion criteria are individuals living with stroke for more than 1 year with intact cognition and willing to be compliant to all 10 sessions.

RESULTS

A retrospective analysis of participants who joined this programme from 2015 to 2019 was done. A total of seventy one (n=71) participants were reviewed, 100% completed the program successfully and were discharged safely to community with no further follow up at the rehabilitation medicine clinic, physiotherapy unit and occupational therapy unit.

CONCLUSION

Based on the client feedback upon completion of the programme, majority of the participants felt empowered to be independent and were confident for community re-integration post stroke. We were successful in reducing the congestion of patients coming for follow up.

KEYWORDS

Stroke, Step Down, Rehabilitation

39. RETURNING TO WORK FOLLOWING MULTIPLE FRACTURES INJURY: A CASE STUDY OF A DENTAL SPECIALIST

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INTRODUCTION

Work performance is one of the most relevant functional outcome measures of injuries and a key element in rehabilitation of adult patients. This case emphasizes a holistic work rehabilitation process in ensuring a successful Return to Work (RTW) program for a dental specialist following multiple fractures involving bilateral forearm and right femur.

CASE PRESENTATION

A 33-year-old gentlemen working as a clinical specialist and academician, suffered multiple fractures of bilateral forearm and right femur following a motor vehicle. Post-trauma, open reduction internal fixation (ORIF) was done at all affected fractures. At 4 months follow-up revision from titanium elastic nails to plating of the right ulnar bone. He was later assigned to Return to Work (RTW) program for work rehabilitation where job analysis, Functional Capacity Evaluation (FCE), work conditioning and work hardening was conducted 6 months post trauma. In order to prevent an extended medical leave, a well-structures RTW process was laid out as a guideline in order to ensure a successful outcome.

CONCLUSION

The client managed to return to his previous occupation with the same employer and job modifications after attending outpatient rehabilitation. In conclusion, tailored RTW intervention and collaboration among multidisciplinary teams could improve productivity and reduce the risk of prolonged work disability.

KEYWORDS

Return to Work rehabilitation, multiple fracture, dental

40. CHALLENGES IN RETURNING TO WORK AFTER SPINAL CORD INJURY: A CASE REPORT

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INTRODUCTION

Spinal cord injury is a major debilitating medical condition with profound health, economic and social consequences. Despite rehabilitation interventions, returning to work remains as one of the big challenges in persons with spinal cord injury. This case report aims to explore the difficulties faced by spinal cord injury individual following the International Classification of Functioning, Disability and Health (ICF) framework.

CASE PRESENTATION

A 35 year-old lady with no known comorbidities was involved in a road traffic accident in which her motorcycleskidded. She sustained C5/C6 traumaticdisc herniation with spinal cord oedema and also mild traumatic brain injury. She underwent cervical spinal instrumentation for her injury. 4 months post-injury her, neurological level of injury (NLI) was C5 AIS C. She was admitted to a rehabilitation center and participated in 3 months of intensive inpatient rehabilitation. Upon discharge, there was an improvement of her NLI to C7 AIS D. She is independent in self care and is ambulating independently. Despite achieving good functional recovery, she is unable to return to work due to multiple reasons. The multifactorial hindrances is discussed according to the ICF framework.

CONCLUSION

As of current this patient is unable to return to work due to impaired hand function and transportation issues. In conclusion, further intervention in the factors hampering this patient to return to work is essential.

KEYWORDS

Spinal cord injury, return to Work

41. OSMOTIC DEMYELINATION SYNDROME- EARLY REHABILITATION HELPS IMPROVE OUTCOME: A CASE REPORT

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INTRODUCTION/OBJECTIVES

Osmotic demyelination syndrome(ODS) is a rare demyelination disorder of the central nervous system with poor prognosis. We report a case of ODS which showed good functional recovery with early rehabilitation.

METHODS

Case Report

CASE SUMMARY

A 26-year-old female presented with abdominal pain and constipation for 2 weeks. She was investigated for subacute intestinal obstruction and laboratory results showed hyponatremia (Na=109 mmol/L) and hypokalemia (K=3.0mmol/l). Na level was corrected to 121mmol/L within 24 hours. 1 week later, she developed Glasgow Coma Scale(GCS) of E4V1M4, behavioral changes, mutism, dysphagia and spastic tetraparesis. MRI brain showed features of central pontine and extrapontine myelinosis. Patient was treated with intravenous immunoglobulin (IVIG). On admission to rehabilitation ward, her impairments included cognitive deficits, generalized spasticity and painful dystonia. Successful control of spasticity and dystonia was achieved with baclofen and clonazepam. Additional botulinum toxin injection over left ankle with serial casting was performed in view of severe equinovarus deformity. The team focused on improving her attention span, communication, physical strength, joints range, fine motor coordination, ADL and mobility capability. She demonstrated remarkable improvements in her communication ability and functional outcomes over a course of 2 months (Table 1).

CONCLUSION

Prognosis is usually poor where 33-55% ODS patients ended with severe permanent disability or death. This patient demonstrated predictors of poor outcome namely severe hyponatremia <114 mmol/L, concomitant hypokalemia, and reduced GCS. With early rehabilitation, she showed good functional recovery. Regardless of the initial severity, early rehabilitation management is strongly recommended to achieve favorable outcome.

KEYWORDS

Hyponatremia, Osmotic demyelination syndrome, Rehabilitation

Outcome Measure		Duration of illness			
		Week 2	Week 4	Week 6	Week 8
Mini Mental State Examination		NT	-	18/30	24/30
Modified Barthel Index		2/100	13/100	44/100	70/100
Modified Rivermead Mobility Index		5/40	21/40	24/40	36/40
Grip strength	Right hand	NT	NT	2.0 kgF	3.0kgF
	Left hand	NT	NT	2.0 kgF	4.6kgF
Grooved Pegboard Test	Right hand	NT	NT	16min59sec	6 min13sec
	Left hand	NT	NT	24min40sec	8min3sec

Table 1: Functional Outcome Measures

42. INFINITY GAUNTLET IN PAEDIATRIC SPINAL CORD INJURY

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INTRODUCTION

Management of Paediatric spinal cord injury patients can be challenging but satisfying if we use a little innovation and creativity.

CASE SUMMARY

SQB, is a 8-year-old girl, diagnosed with Transverse Myelitis (C4 Complete Tetraplegia). To improve her left upper limb function we tailored a cock-up splint for her. However, she found the splint was quite boring. Thus, she was not compliant to the splint. Our team modified the cock-up splint in idea to resemble the infamous Infinity Gauntlet. This had resulted in prolonged usage of the splint, better compliance and to be equally competing with the world trends.

CONCLUSION

Innovation plays an important role in Paediatric patients' compliance. We need a dedicated team in the practice of being creative, modifying equipment and utilising available resources is paramount in achieving compliance among paediatric patients.

KEYWORDS

Innovation, Paediatrics, Compliance

43. THE HEALING PAIN OF TRADITIONAL HEATED RIVER STONE “BERTUNGKU” IN SPINAL CORD INJURY

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INTRODUCTION

Tungku in English meaning STOVE. According to the International Journal of Public Health and Clinical Sciences (e-ISSN: 2289-7577. Vol. 4: No. 5, September/ October 2017) in Malaysia, Traditional and Complementary Medicine (TCM) are classified into six major groups namely traditional Malay medicine, traditional Chinese medicine, traditional Indian medicine, homeopathy, complementary medicine, and Islamic medical practice. In Malaysia, studies have reported that 69.4% of the Malaysian populations in all states have used TCM in their lifetime (Siti et al., 2009). Bertungku (Heated river stone) is one of the type of Traditional Malay treatment, it is a form of point massage using heated object direct exposure or indirect exposure such as consuming ‘hot food’ during confinement and also for postnatal massage include hot compression (Bertungku) for at least six to seven times during the confinement period. The aim of Hot Compression (Bertungku) is to reduce the pain, reduce muscle spasm, reduce congestion of non- inflammatory origin, to stimulate the absorption of cellular debris during healing of injuries and also to improve bowel movement, promote flatus and defecation. Normally Apparatus used a ball-like iron with a handle or a sphere-shaped river stone. It first heated, then wrapped with cloth or “daun mengkudu” or “daun sirih” inside the cloth for aromatherapy purpose while conducting the session Normally “bertungku” sites on limbs, shoulder, neck region, abdomen, and chest.

CASE PRESENTATION

A 54-year-old lady, no known medical illness with independent personal activity daily living . In December 2018. Patient complaint of lower back pain with radiating to right lower limb. Subsequently on January 2019 patient complaint of bilateral lower limb weakness until unable to walk, wheelchair bound with bowel and bladder incontinence. Her first MRI spine showed T8/T9 disc- Osteophyte/ Ligamentum flavum complex with narrowing of the central cord canal and cord attenuation facet joint osteoarthritis with compression of spinal cord at T8/T9 and T11/T12 due to bulged disc and C5-C6 disc herniation. Patient went to KPJ and underwent endoscopic decompression of all 4 levels on 02/03/2019. Post operation, patient was referred to Orthopaedic Department in Hospital Sri Manjung for continuation of care. Subsequently patient was referred to rehabilitation department and was diagnosed as T6 incomplete tetraplegia and for wound care over lower abdominal wall post “bertungku”. Patient had lower abdominal wound with necrotic patches with granulation tissue .Wound was dressed with criss-cross method and applied with intrasite gel and bactigrass over the lower abdominal wall.

CONCLUSION

In Malaysia, the safety and efficacy traditional and complementary medicines have become a cause of concern for both health authorities and the public. In view of this, for those patients have partially lost/ total loss of sensory is not advisable for using this “bertungku” method will causing more injury to patient. In future for health care professional should give some traditional advice for patient if patient keen for traditional treatment.

Keywords Spinal cord injury, bertungku

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-Youtube: <https://www.youtube.com/channel/UCLT8o6QzIGIFIN3wK1ovabg/featured>



Company website:

- <https://www.convatec.com.my/>

List of sales contact phone number

- Siti Nor Wana (Product Specialist) +6016-2067560

- Michael Ng (Sales Manager) +6012-2787877

Social media:

- **Facebook:** <https://www.facebook.com/ConvaTecMalaysia>

- **Instagram:** <https://www.instagram.com/convatec.my/>



Company website:

<https://www.epplusgroup.com/>

List of sales contact phone number

Alex Tan (Mr): 016 596 9643

Ginny Lin (Ms): 012 240 9840

Anif (Mr): 016 721 9204

Foo Ru Yi (Mr): 017 957 7058

Social media:

Facebook: <https://www.facebook.com/epplusgroup>



Company website:

<https://www.gntmedixcel.com>

List of sales contact phone number

Mr Gerald: +60168105183

Social media:

Youtube: <https://www.youtube.com/channel/UC3SF61PufkMzGiRKK412V5A>

Facebook: <https://www.facebook.com/gntmedixcel>

Email: gerald@gntmedixcel.com

B) Premium Package



Company website:

www.bioapps.com.my

List of sales contact phone number

Ilya: 012-4406055

Social media:

Facebook: BioApps Sdn Bhd

Instagram: bioappsofficial

Youtube: BioApps Sdn Bhd

Twitter: BioApps_UM



Company website:

<https://www.medtronic.com>

List of sales contact phone number

Brian Kah (+6012-327 9811)



Company website:

<https://tehlin.com/>

List of sales contact phone number

Evelyn Khong (016-412 0726)

Social media:

Facebook: <https://www.facebook.com/prosthetictehlin>



Company website:

<https://www.totalmedical.com.my/>

List of sales contact phone number

Mr Alan(0125014299)

Social media:

Facebook: <https://www.facebook.com/totalmedicalsups>

C) Webinar Package



Company website:

<http://www.integahealth.com/>

List of sales contact phone number

Samantha Wong +6012-8007881

Social media:

Email: samantha.wong@integahealth.com