

[< Back to results](#) | 1 of 1[Export](#) [Download](#) [Print](#) [E-mail](#) [Save to PDF](#) [Add to List](#) [More... >](#)Brunei International Medical Journal
Volume 11, Issue 2, 2015, Pages 65-73[Open Access](#)

Refeeding hypophosphataemia in a Malaysian intensive care unit: Incidence, risk factors and outcomes (Article)

Md Ralib, A. [✉](#), Ismail, C.A.N., Hassan, M.Z.H., Tuan Ibrahim, T.M.F., Mat Nor, M.B. [🔍](#)

Department of Anaesthesiology and Intensive Care, Faculty of Medicine, International Islamic University Malaysia, Pahang, Malaysia

Abstract

[View references \(24\)](#)

Introduction: Refeeding syndrome is characterised by acute electrolyte derangement following the start of nutrition. Hypophosphataemia is the predominant feature of the electrolyte derangement, hence commonly used for its definition. We aim to assess the incidence of refeeding hypophosphataemia, and its associated risk factors, and outcome in our local ICU. **Materials and Methods:** This was a single centre, prospective observational study at the ICU of Hospital Tengku Ampuan Afzan Kuantan, involving adult admission longer than 48 hours. Chronic renal failure patients and those receiving dialysis were excluded. Refeeding hypophosphataemia (RH) was considered if plasma phosphate was less than 0.65 mmol/l. **Results:** Fifty-four patients were screened. After exclusion, 29 were recruited, of which, 13 (44.8%) patients had RH. Of this, 66% occurred with duration of fasting of less than two days. These patients had higher NUTRIC score (3.9 ± 2.1 versus 2.4 ± 1.9 , $p=0.05$). There was a trend of lower albumin, magnesium, calcium and potassium concentration, however these were not statistically significant. All patients with hypomagnesaemia (less than 0.5 mmol/l) had RH ($p=0.01$). There were no differences in mortality, length of hospital or ICU stay and duration of mechanical ventilation. **Conclusion:** Refeeding hypophosphataemia is common, occurring in 45% of ICU admission regardless of their fasting status. Higher NUTRIC score and hypomagnesaemia were the risk factors, however we showed no differences in outcome. Future larger studies could evaluate the association between its risk factors and outcome in our local population.

Author keywords

Electrolytes Incidence Nutritional status Refeeding hypophosphataemia Refeeding syndrome Risk factors

ISSN: 15605876

Source Type: Journal

Original language: English

Document Type: Article

Publisher: Ministry of Health

References (24)

[View in search results format >](#) All [Export](#) [Print](#) [E-mail](#) [Save to PDF](#) [Create bibliography](#)

- 1 Marinella, M.A.
The refeeding syndrome and hypophosphatemia

(2003) *Nutrition Reviews*, 61 (9), pp. 320-323. Cited 69 times.
doi: 10.1301/nr.2003.sept.320-323[View at Publisher](#)

Metrics [🔍](#)

0 Citations in Scopus

0 Field-Weighted Citation Impact



PlumX Metrics [v](#)

Usage, Captures, Mentions, Social Media and Citations beyond Scopus.

Cited by 0 documents

Inform me when this document is cited in Scopus:

[Set citation alert >](#)[Set citation feed >](#)

Related documents

Refeeding syndrome in medical inpatients | Das «refeeding-syndrom» beim internistischen Patienten

Felder, S. , Friedli, N. , Stanga, Z. (2016) *Praxis*

Refeeding hypophosphatemia: A potentially fatal danger in the intensive care unit

Coşkun, R. , Gündoğan, K. , Baldane, S. (2014) *Turkish Journal of Medical Sciences*

Refeeding syndrome or refeeding hypophosphatemia: A systematic review of cases

Skipper, A. (2012) *Nutrition in Clinical Practice*[View all related documents based on references](#)

Find more related documents in Scopus based on:

[Authors >](#) [Keywords >](#)

2 Crook, M.A., Hally, V., Panteli, J.V.
The importance of the refeeding syndrome
(2001) *Nutrition*, 17 (7-8), pp. 632-637. Cited 249 times.
doi: 10.1016/S0899-9007(01)00542-1
[View at Publisher](#)

3 Solomon, S.M., Kirby, D.F.
The refeeding syndrome: A review
(1990) *Journal of Parenteral and Enteral Nutrition*, 14 (1), pp. 90-97. Cited 372 times.
[View at Publisher](#)

4 Marik, P.E., Bedigian, M.K.
Refeeding hypophosphatemia in critically ill patients in an intensive care unit: A prospective study
(1996) *Archives of Surgery*, 131 (10), pp. 1043-1047. Cited 164 times.
[View at Publisher](#)

5 O'Connor, G., Nicholls, D.
Refeeding hypophosphatemia in adolescents with anorexia nervosa: A systematic review
(2013) *Nutrition in Clinical Practice*, 28 (3), pp. 358-364. Cited 29 times.
doi: 10.1177/0884533613476892
[View at Publisher](#)

6 Rio, A., Whelan, K., Goff, L., Reidlinger, D.P., Smeeton, N.
Occurrence of refeeding syndrome in adults started on artificial nutrition support: Prospective cohort study
(2013) *BMJ Open*, 3 (1), art. no. e002173. Cited 34 times.
<http://bmjopen.bmj.com/content/3/1/e002173.full.pdf+html>
doi: 10.1136/bmjopen-2012-002173
[View at Publisher](#)

7 Camp, M.A., Allon, M.
Severe hypophosphatemia in hospitalized patients
(1990) *Mineral and Electrolyte Metabolism*, 16 (6), pp. 365-368. Cited 61 times.

8 Hearing, S.D.
Refeeding syndrome
(2004) *British Medical Journal*, 328 (7445), pp. 908-909. Cited 90 times.
[View at Publisher](#)

9 Byrnes, M.C., Stangenes, J.
Refeeding in the ICU: An adult and pediatric problem
(2011) *Current Opinion in Clinical Nutrition and Metabolic Care*, 14 (2), pp. 186-192. Cited 43 times.
doi: 10.1097/MCO.0b013e328341ed93
[View at Publisher](#)

- 10 Zeki, S., Culkun, A., Gabe, S.M., Nightingale, J.M.
Refeeding hypophosphataemia is more common in enteral than parenteral feeding in adult in patients
(2011) *Clinical Nutrition*, 30 (3), pp. 365-368. Cited 33 times.
doi: 10.1016/j.clnu.2010.12.001
[View at Publisher](#)
-
- 11 Marvin, V.A., Brown, D., Portlock, J., Livingstone, C.
Factors contributing to the development of hypophosphataemia when refeeding using parenteral nutrition
(2008) *Pharmacy World and Science*, 30 (4), pp. 329-335. Cited 12 times.
doi: 10.1007/s11096-007-9180-5
[View at Publisher](#)
-
- 12 Vignaud, M., Constantin, J.-M., Ruivard, M., Villemeyre-Plane, M., Futier, E., Bazin, J.-E., Annane, D.
Refeeding syndrome influences outcome of anorexia nervosa patients in intensive care unit: An observational study
(2010) *Critical Care*, 14 (5), art. no. 172. Cited 35 times.
<http://ccforum.com/content/14/5/R172>
doi: 10.1186/cc9274
[View at Publisher](#)
-
- 13 Boateng, A.A., Sriram, K., Meguid, M.M., Crook, M.
Refeeding syndrome: Treatment considerations based on collective analysis of literature case reports
(2010) *Nutrition*, 26 (2), pp. 156-167. Cited 101 times.
doi: 10.1016/j.nut.2009.11.017
[View at Publisher](#)
-
- 14 Heyland, D.K., Dhaliwal, R., Jiang, X., Day, A.G.
Identifying critically ill patients who benefit the most from nutrition therapy: The development and initial validation of a novel risk assessment tool
(2011) *Critical Care*, p. R268. Cited 136 times.
doi: 10.1186/cc10546
[View at Publisher](#)
-
- 15 Lin, B.W., Yoshida, D., Quinn, J., Strehlow, M.
A better way to estimate adult patients' weights
(2009) *American Journal of Emergency Medicine*, 27 (9), pp. 1060-1064. Cited 16 times.
doi: 10.1016/j.ajem.2008.08.018
[View at Publisher](#)
-
- 16 Basri, M.N., Janattul, A.J., Azrina, M.R., Abdul Hadi, M.
Hypophosphatemia in the intensive care unit: Incidence, predictors and management
(2012) *International Medical Journal Malaysia*, 11 (1), pp. 31-36. Cited 2 times.
[http://iiuimedic.net/imjm/v1/download/Volume%2011%20No%201/IMJM%20Vol11No1-2012-p31-36\(ed\).pdf](http://iiuimedic.net/imjm/v1/download/Volume%2011%20No%201/IMJM%20Vol11No1-2012-p31-36(ed).pdf)
-

- 17 Hoffmann, M., Zemlin, A.E., Meyer, W.P., Erasmus, R.T.
Hypophosphataemia at a large academic hospital in South Africa

(2008) *Journal of Clinical Pathology*, 61 (10), pp. 1104-1107. Cited 26 times.
doi: 10.1136/jcp.2007.054940

[View at Publisher](#)

- 18 Zazzo, J.-F., Troché, G., Ruel, P., Maintenant, J.
High incidence of hypophosphatemia in surgical intensive care patients: Efficacy of phosphorus therapy on myocardial function

(1995) *Intensive Care Medicine*, 21 (10), pp. 826-831. Cited 114 times.
doi: 10.1007/BF01700966

[View at Publisher](#)

- 19 Shor, R., Halabe, A., Rishver, S., Tilis, Y., Matas, Z., Fux, A., Boaz, M., (...), Weinstein, J.
Severe hypophosphatemia in sepsis as a mortality predictor

(2006) *Annals of Clinical and Laboratory Science*, 36 (1), pp. 67-72. Cited 60 times.

- 20 Mehanna, H.M., Moledina, J., Travis, J.
Refeeding syndrome: What it is, and how to prevent and treat it

(2008) *BMJ*, 336 (7659), pp. 1495-1498. Cited 202 times.
doi: 10.1136/bmj.a301

[View at Publisher](#)

- 21 Suzuki, S., Egi, M., Schneider, A.G., Bellomo, R., Hart, G.K., Hegarty, C.
Hypophosphatemia in critically ill patients

(2013) *Journal of Critical Care*, 28 (4), pp. 536.e9-536.e19. Cited 23 times.
doi: 10.1016/j.jcrc.2012.10.011

[View at Publisher](#)

- 22 Demirjian, S., Teo, B.W., Guzman, J.A., Heyka, R.J., Paganini, E.P., Fissell, W.H., Schold, J.D., (...), Schreiber, M.J.
Hypophosphatemia during continuous hemodialysis is associated with prolonged respiratory failure in patients with acute kidney injury

(2011) *Nephrology Dialysis Transplantation*, 26 (11), pp. 3508-3514. Cited 55 times.
doi: 10.1093/ndt/gfr075

[View at Publisher](#)

- 23 Owers, E.L., Reeves, A.I., Ko, S.Y.
Rates of adult acute inpatients documented as at risk of refeeding syndrome by dietitians
(2014) *Clin Nutrition*. Cited 2 times.

- 24 Geerse, D.A., Bindels, A.J., Kuiper, M.A., Roos, A.N., Spronk, P.E., Schultz, M.J.
Treatment of hypophosphatemia in the intensive care unit: A review

(2010) *Critical Care*, 14 (4), art. no. R147. Cited 73 times.
<http://ccforum.com/content/14/4/R147>
doi: 10.1186/cc9215

[View at Publisher](#)

About Scopus

- [What is Scopus](#)
- [Content coverage](#)
- [Scopus blog](#)
- [Scopus API](#)
- [Privacy matters](#)

Language

- [日本語に切り替える](#)
- [切换到简体中文](#)
- [切换到繁體中文](#)
- [Русский язык](#)

Customer Service

- [Help](#)
- [Contact us](#)

ELSEVIER

[Terms and conditions](#) [Privacy policy](#)

Copyright © 2017 Elsevier B.V. All rights reserved. Scopus® is a registered trademark of Elsevier B.V.

Cookies are set by this site. To decline them or learn more, visit our [Cookies page](#).

 RELX Group™