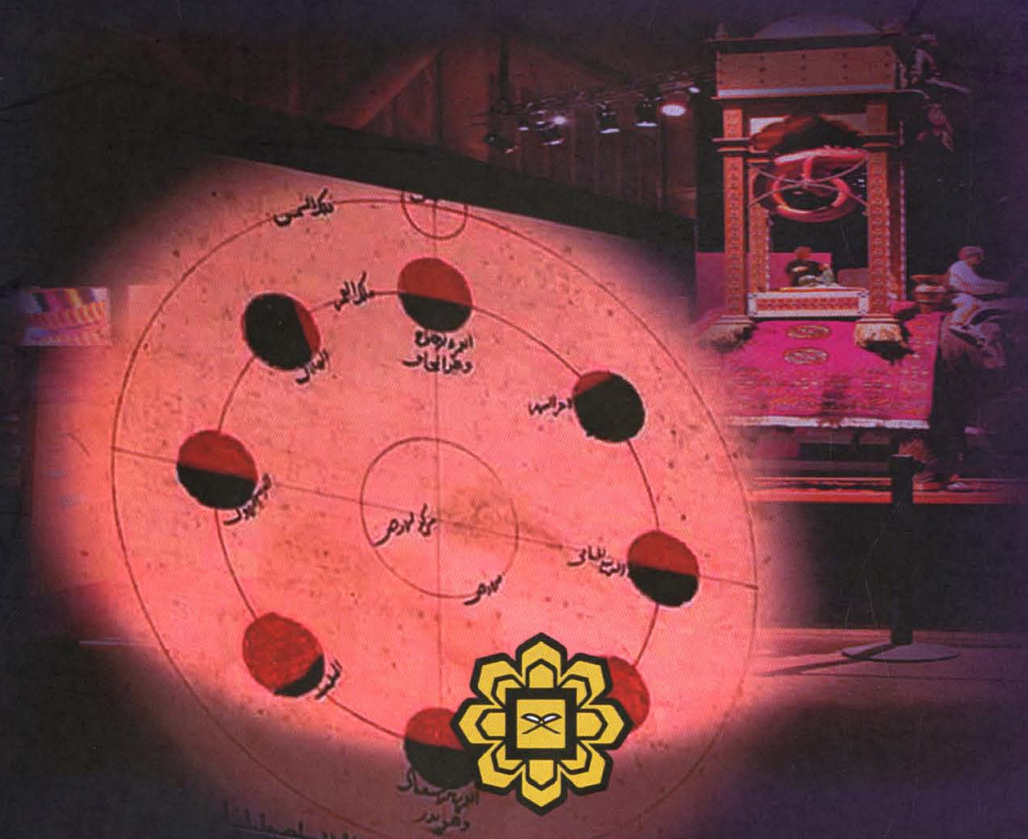
Contributions of Muslim Scientists to Medicine and Related Sciences

Abdi O. Shuriye
Raihan Othman



IIUM Press
INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA

Contributions of Muslim Scientists to Medicine and Related Sciences

Editors
Abdi O. Shuriye
Raihan Othman

IIUM Press

Published by:
IIUM Press
International Islamic University Malaysia

First Edition, 2011

Perpustakaan Negara Malaysia Cataloguing-in-Publication Data

Abdi O. Shuriye: Contributions of Muslim Scientists to Medicine and Related Sciences

ISBN: 978-967-418-155-0

Member of Majlis Penerbitan Ilmiah Malaysia – MAPIM
(Malaysian Scholarly Publishing Council)

Printed by :
IIUM PRINTING SDN.BHD.
No. 1, Jalan Industri Batu Caves 1/3
Taman Perindustrian Batu Caves
Batu Caves Centre Point
68100 Batu Caves
Selangor Darul Ehsan
Tel: +603-6188 1542 / 44 / 45 Fax: +603-6188 1543
EMAIL: iiumprinting@yahoo.com

Contents

CHAPTER THREE

AL-RAZI WORKS AND CONTRIBUTIONS IN NEUROLOGICAL SCIENCES

Nur Rahilah Haji Abd Rahman, Abdi O. Shuriye

Fac. of Eng., International Islamic Univ. Malaysia (IIUM), Jalan Gombak, 53100 Kuala Lumpur, Malaysia.

3.1 INTRODUCTION

This chapter investigates Al-Razi's contributions in neurology and the main focus of it is to accrue Al-Razi works in neurological sciences. Related information and data were collected from reliable sources. Abu Bakar Muhamed Ibn Zakariya Al-Razi was born in the Iranian city of al-Rayy, south of modern Tehran at 864 AD and came to Baghdad to study medicine and subsequently completed his medical training in Muqtadiri Hospital.

3.2 NEUROANATOMY

There was a blooming of anatomy discovery by the end of middle ages where people curiosity on secrets of human body arises; one of the contributor in this field is Al- Razi who is acknowledge in the discovery of the nervous system and thyroid glands (Ignjatovic, 2010, p.974). Although his studies following Galen's theory, al-Razi challenged the concept from Galen that the brain, spinal cord and ventricles comprise on a single structure and confirmed they are paired structures (Jalal, 2010, p.589).

As described in his works in *Kitab al-Hawi* and *al-Mansuri*, he described nerves as having motor and sensory functions originate in pairs from the brain and spinal cord with membrane coverings; and counted seven cranial nerves from the optic to the hypoglossal nerves and 31 peripheral nerves (Tubbs et. Al., 2007, p.1225). Then, he further divided the peripheral nerves into 8 cervical pairs, 12 thoracic pairs, 5 pairs in the lumbar spine, and 3 in the sacral spine (Jalal, 2010, p.589). Table 1 explains the differences of his theory with other neurologists before and after his time.

Al-Razi was the first to use his developed neuroanatomy in the lesions localization of the nervous system and to correlate them with clinical signs (Mohammadali et.Al., 2009, p.1188). According to his documented works, he had a patient who is complaining on numbness of his little finger after neck trauma and diagnosed his patient must to have an injury in the last cervical vertebra; because he knew from his anatomic studies that the nerve from the last cervical vertebra goes to the finger. He also discovers the double branches on the right side of laryngeal nerves (Jalal, 2010, p.589), the neurologic theory of sciatic nerve disease, concussion, facial nerve paralysis, neurotrauma, tremors, epilepsy, headaches and hemiplegia (Tubbs et. Al., 2007, p.1226). As an educator during his time,