

Facial Nerve Palsy in Three HIV/AIDS Patients

By

A.I. Shugaba, R.M. Mathew, C. B. Uzokwe, F.Shinku,
Y.M. Usman B. M. Mohammed, A. M. Rabi,
I. M. Gambo and M.B.T. Umar

ISSN 0970-4973 (Print)

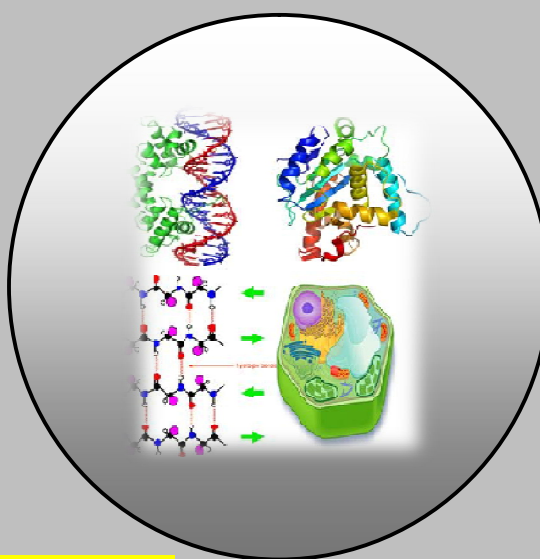
ISSN 2319-3077 (Online/Electronic)

Volume 30
No.1 (2013)

J. Biol. Chem. Research
Volume 30 (1) 2013 Pages No. 83-87

**Journal of
Biological and
Chemical Research**

(An International Journal of Life Sciences and Chemistry)



Published by Society for Advancement of Sciences®



JBCR

[http:// www.jbcr.in](http://www.jbcr.in)

jbicchemres@gmail.com

info@jbcr.in

CASE REPORT

Received: 9/10/2012 Revised: 18/01/2013 Accepted: 20/01/2013

Facial Nerve Palsy in Three HIV/AIDS Patients

***A.I. Shugaba, ** R.M. Mathew, *C. B. Uzokwe, *F.Shinku,*
Y.M. Usman *B. M. Mohammed, ***A. M. Rabi, ***
I. M. Gambo and *M.B.T. Umar**

***Department Of Anatomy, Faculty of Medical Sciences, University of Jos, Jos, Nigeria.**

****Abnira Medical Centre Plots 10078, Hospital Place, Jos, Nigeria.**

*****Department of Physiology, Faculty of Medical Sciences, University of Jos, Jos, Nigeria.**

ABSTRACT

This physically and psychologically challenging condition of the face caused by the facial nerve damage was seen in three patients in Abnira medical centre, Jos, Plateau State with HIV/ AIDS.

The first two were spouses aged 32 years (male) and 38 years (female) with low CD4 count and the third an unmarried 32 years old female. All were seen within six months.

We are reporting these cases to stimulate interest in both retrospective and prospective studies into various cranial nerves` palsies and HIV/AIDS

All the cases were lower motor neuron lesions.

Key Words: Cranial nerves, Facial nerve, HIV/AIDS, Abnira Medical Centre.

INTRODUCTION

Facial nerve palsy is sudden weakness and paralysis of the facial nerve on one side of the face. The lesion can either be supra nuclear, nuclear or Infra nuclear. The supra nuclear lesions are caused by the damage to the contra lateral pyramidal tract causing weakness of the lower face as a classical feature of a 'stroke' (thrombosis or haemaorrhage in the internal capsule). Nuclear lesions are rare and are best known as the medial pontine syndrome in which facial paralysis is accompanied by a contra lateral hemiplegia (Millard- Gubler syndrome). While infra nuclear lesions are relatively frequent. Much the commonest is Bell`s palsy caused by neuritis of the facial nerve (Rinn, 1984 and William De Meyer, 1988).

Aetiological factors of this condition include (Sears et al, 1980, Davidson, 2002 and Kumar and Clark, 2002).

Idiopathic, where the cause of the inflammation is not clearly known or is poorly understood.

Viral infections like influenza, herpes zoster and now HIV/AIDS.

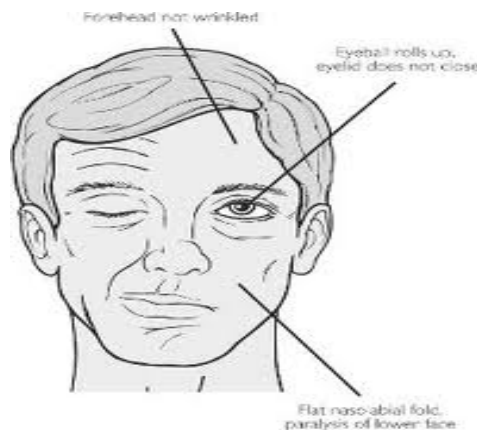
Bacterial infections like tuberculosis from Mycobacterium Tuberculosis.

Some malignancies of the parotid and cerebellopontine angle.

Trauma to facial nerve, including those caused by forceps delivery and surgical procedures in the middle ear and mastoid processes.

Other risk factors include Diabetes mellitus, familial cases, high blood pressure, and pregnancy during third trimester, severe cold and weak immune system. More than one third of patients have diabetes mellitus in which there is pathology of the small arteries of the nerve.

The incidence of facial nerve palsy internationally is about 10-20 cases per 100, 000 population, and the American incidence is 20-30 per 100,000 population. Nigerian and Jos incidences are not documented.



In facial nerve palsy, especially Infra nuclear lesion, there is initial pain in the ear on the affected side, but otherwise the condition is painless. On the affected side, the patient is unable to raise the eyebrow, close the eye, purse the lips, or retract the lip. Tears may spill from the lax conjunctiva sac, and saliva may drool from one corner of the mouth. During mastication the hand may be pressed against the cheek to prevent food falling into the vestibule of the mouth. Nystagmus can usually be elicited at the onset of illness, if the eye is brought into full abduction. The Nystagmus may be caused by pressure of the swollen facial nerve upon the vestibular nerve in the internal acoustic meatus (Dubner et al, 1978, Davidson 2002 and Kumar and Clark, 2002).The chorda tympani is nearly always paralyzed on the affected side.

The lacrimal gland is sometimes affected, leading to the dryness of the eye. Lacrimal flow can be compared on the two sides by measuring the rate of wetting of a strip of filter paper inserted into the outer corner of each eye (Dubner et al, 1978 and William De Meyer, 1988).

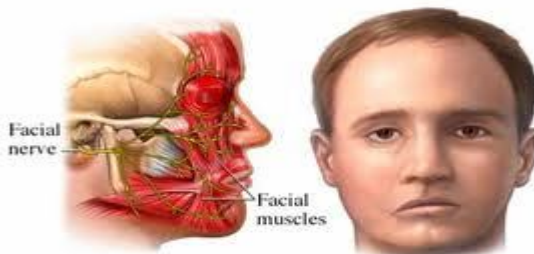
Paralysis of the stapedius muscle may result in hyperacusis, with unpleasant intensification of loud sounds (Davidson, 2002, Kumar and Clark, 2002).

Four out of five cases recover completely in two to six weeks, because the nerve has only suffered conduction block (neopraxia). In the remainder, the nerve undergoes Wallerian degeneration; recovery then takes about three months and is usually incomplete. Some preganglionic fibres may regenerate in the wrong direction and stimulate the lacrimal gland at meal times producing the so-called crocodile's tears (Dubner et al, 1978).

In the newborn, facial nerve palsy is caused by the compression of one or both nerves by the Obstetrician's forceps. The nerve is vulnerable at this time because of the absence of the protective mastoid process. The stylomastoid foramen opens at a lateral direction (Brtazlavsky M., 1976 and William De Meyer, 1978).



All these are possible because of the Anatomical disposition of the facial nerve (because of its interosseous course with the 8th cranial nerve in the internal auditory canal and the facial or fallopian canal in the petrous temporal bone): the main facial nerve leaves the pons at its lower border and crosses the subarachnoid space to enter the temporal bone. It passes above the vestibule of the labyrinth, bends backward at the genu and descends to the stylomastoid foramen in the interval between the middle ear and the mastoid process. Before emerging from the skull it supplies the stapedius muscle. When it emerges it gives branches to the occipitalis, posterior belly of digastric and stylohyoid muscles. Finally, it divides within the parotid gland into six branches to the muscles of facial expression (Rinn W. E., 1984, Kumar and Clark, 2002, William De Meyer, 1988 and Chummy S. Sinnatamby, 2011).



The three cases that presented to us in Abnira Medical Centre, Jos were apparently healthy individuals few weeks before reporting. They all do not have any history of hypertension, diabetes mellitus, familial incidence, trauma, exposure to severe cold prior to presentation (in fact the unmarried female had just returned from the eastern part of the country where the weather was then very hot around March). None of the two females was either pregnant. However in one of the patients, besides the classical facial nerve palsy appearance of the face which all of them had, he also presented with herpetic vesicular rash around the external ear. Interestingly enough, none of them had any history of preceding fever especially the couple who had the same complaint at the same time. The couple only came to the centre after the Herbalist could not give them satisfactory advice the previous day of their `bizarre` facial appearances.

General physical examination did not reveal any other finding apart from their facial appearances. Their sitting, lying and standing blood pressures were all within normal limits.

Basic investigations and retroviral screening (after both pre and post test counseling) were carried out. Full blood count, urinalysis and microscopy, liver function tests and blood urea, electrolytes and creatinine levels were normal. However, the ESR values per hour fall of the three patients were all above 60mm/hour fall and the retroviral screening was positive. Confirmatory tests were also all positive for the three cases (Guyton and Hall, 2003).

Their CD4 cell counts were all below 120 cells/mm³.

All of them were managed conservatively. They were seen by the Physiotherapist immediately and also sent to the focal APIN centre for further confirmation and commencement of anti retroviral treatment.

We followed them up in the Centre and the husband and the unmarried female have completely recovered from their facial nerve palsy. They are also doing very well on the anti retroviral treatment.

These cases are reported to illustrate how eventual complications have been averted and also to give hope to the patients. Provided such patients report early to hospital and are well counseled to accept both diagnosis and treatment. The Physicians must also exercise great caution and patience in their management.

ACKNOWLEDGEMENT

We are very grateful to these patients for allowing us use their information to awaken our colleagues especially in reviewing our neurology.

REFERENCES

Rinn, W.E. 1984. The neurophysiology of facial expression: A review of the neurological and psychological mechanisms for producing facial expressions. *Psycho. Bull.*, 95: 52-77

- Sears, E.S. and Franklin, G.M. 1980. Diseases of the cranial nerves. In *Neurology* (Rosenberg, R.N., ed.), pp 471-494. New York.
- Groves, J. 1976. Facial nerve. In *Scientific Foundations of Otolaryngology*. (Hinchliffe, R. and Harrison, D., eds.), pp 429-459. London Heinemann.
- Dubner, R., Sessle, B.J. and Storey, A.T. 1978. Jaw, facial and tongue reflexes. In *the Neural Basis of Oral and Facial Function* by Dubner, R., Sessle, B.J. and Storey, A.T., pp. 246-310. Amsterdam: *Elsevier*.
- Bratzlavsky, M. 1976. Human brainstem reflexes. In *The Motor System: Neurophysiology and Muscle Mechanisms* (Shahani, M., ed.), pp135-154. Amsterdam: *Elsevier*.
- Davidson's principles and practice of medicine, 2002. 19th edition, pp. 1183.
- Kumar and Clark, 2002. *Clinical medicine*, 5th edition, pp : 1139.
- William De Meyer, 1988. *NMS Neuroanatomy*, pp : 146 149.
- Chummy, S. Sinnatam, 2011. *By Last's Anatomy, regional and applied*, 12th edition, pp: 350.
- Guyton and Hall, 2003. *Textbook of physiology*, 10th edition, pp.148, 393, 399.

Corresponding author: Dr. A.I. Shugaba, Department of Anatomy, Faculty of Medical Sciences, University of Jos, Jos. Email: alishugaba@yahoo.com