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SPECIAL REVIEW

Marathon of eponyms: 2 Bell palsy (idiopathic facial palsy)

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The use of eponyms has long been contentious, but many remain in common use, as discussed elsewhere (Editorial: Oral Diseases. 2009: 15; 185-186). The use of eponyms in diseases of the head and neck is found mainly in specialties dealing with medically compromised individuals (paediatric dentistry, special care dentistry, oral and maxillofacial medicine, oral and maxillofacial pathology, oral and maxillofacial radiology and oral and maxillofacial surgery) and particularly by hospital-centred practitioners. This series has selected some of the more recognised relevant eponymous conditions and presents them alphabetically. The information is based largely on data available from MEDLINE and a number of internet websites as noted below: the authors would welcome any corrections. This document summarises data about Bell paralysis.

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Keywords: oral; eponyms; Bell's paralysis; Bell's palsy; facial palsy

Also known as

Bell palsy Bell syndrome Idiopathic facial palsy

The condition:

Idiopathic facial palsy (IFP), or primary facial nerve palsy (FNP), is an acute lower motor neurone paralysis of the face, which represents about 75% of all nontraumatic facial palsies.

Usually seen in the young adult, IFP affects around 20 per 100 000 of the population; there is an equal male to female ratio and a 3.3 times greater incidence in pregnant females.

The cause of IFP is unknown but is presumed to involve swelling of the seventh (facial) nerve within its bony canal. Familial cases are occasionally reported and there appears to be a slightly higher incidence in persons of Japanese descent. Currently, the most widely accepted aetiology is that it is a virally mediated cranial neuritis. Herpes simplex virus has been demonstrated by serological, animal, and human studies. Rarely, facial palsy is associated with another infection, such as by other herpes viruses (varicella-zoster virus infection, cytomegalovirus infection, human herpes virus-6 infection); a retrovirus (HIV infection; human T-lymphotropic virus type 1) and other viruses (Coxsackie, influenza); and bacteria (otitis media; *Borrelia burgdorferii* infection [Lyme disease] and *Mycoplasma pneumoniae*).

The most prevalent causes of secondary FNP are trauma, surgery, diabetes, local infections, tumour, immunological disorders or drugs. Patients with diabetes are at five times more risk of developing the disease, and hypertension also increases the risk. Predisposing factors, found in a minority of cases, include a chronic granulomatous disorder, such as Crohn's disease or orofacial granulomatosis (when the association is often Melkersson–Rosenthal syndrome), lymphoma, multiple sclerosis, Kawasaki disease or Heerfordt syndrome (sarcoidosis).

The minimum diagnostic criteria include sudden onset of paralysis or paresis of all muscle groups on one side of the face, and absence of central nervous system disease. The most common complaints are of weakness on one side of the face. Damage to the facial nerve may also result in facial twitching. If the lesion is located proximal to the stylomastoid canal, there may also be hyperacusis (reduced damping activity of the stapedius because of loss of function of the nerve to the stapedius) or loss of taste (loss of function of the chorda tympani) or loss of lacrimation. Almost 50% of patients experience postauricular pain in the mastoid region, usually simultaneously with the paresis. Two-thirds of patients complain about tear overflow (epiphora) as a result of the reduced function of the orbicularis oculi in transporting the tears. One-third of patients complain about taste disorders, and 80% show a reduced sense of taste.

Most patients with Bell palsy (up to 85%) improve spontaneously within a few weeks. While there is a lack of large, randomised, controlled, prospective treatment

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studies, but there are indications that corticosteroids or antiviral agents are beneficial, some studies however, show no benefit. The after-effects in the remaining 15– 40% of patients that do not spontaneously resolve can be so severe and distressing that active treatment, if effective, seems warranted. The evidence is controversial but the use of antivirals, such as aciclovir plus prednisolone, if commenced within the first 72 h of symptom onset would seem reasonable. Favourable prognostic signs include incomplete paralysis in the first week and persistence of the stapedial reflex, measured by electroneurography.

Bad prognostic signs include a complete paralysis at initial onset (where only 50% recover completely within a week, and few who have not recovered by 2 weeks will do so), hyperacusis, severe taste impairment, diminished lacrimation or salivation, especially if in older, diabetic or hypertensive patients. Bell palsy tends to recur in 7– 9% of patients diagnosed with this condition, usually in patients with a family history of IFP or diabetes mellitus.

Background to the eponym

Cornelis Stalpart van der Wiel (1620–1702) from the Hague, the Netherlands, in 1683, Nicolaus Anton Friedreich (1761–1836) and James Douglas (1675–1742) appear to have given earlier accounts of the condition.

The main person

Sir Charles Bell, Scottish anatomist, surgeon and physiologist, born November 1774, in Doun of Monteith, Edinburgh; died 28 April, 1842, in North Hallow, Worcestershire.

Charles was the younger brother of John Bell (1763-1820), who was to become a well-known surgeon, famous as a teacher and author. Educated until the age of 14 by his mother, Charles Bell attended Edinburgh High School and followed the example of his elder brother, studying medicine at Edinburgh, graduating in 1799. In 1802, John and Charles published volumes of 'Anatomy of the human body'. By 1804, their successes resulted in their being barred from work at the Royal Infirmary or University. Charles moved to London where he taught both artists and medical students at William Hunter's Anatomy School in Great Windmill Street (on the site currently occupied by the Lyric Theatre). In 1806, he published the first book on his own, 'Essays on the Anatomy of Expression in Painting'. In 1807, he became Professor of Anatomy at the Royal Academy of Arts. In 1812, he took over the Great Windmill Street School of Anatomy, which eventually became part of King's College. His book 'An Idea of a New Anatomy of the Brain' was published in 1811.

In 1814, Charles Bell accepted a position as surgeon at the Middlesex Hospital and helped found the Middlesex Hospital Medical School in 1828. Later, he was appointed Professor of Surgery at University College Hospital. He ran a military hospital in Brussels after the Battle of Waterloo in 1815; became Professor of Anatomy at the Royal College of Surgeons in 1825; became FRS in 1826; was knighted by William IV in 1831 and was Professor of Surgery in Edinburgh from 1835 to 1842. In 1829, Bell received the first medal awarded by the Royal Society. He died in Worcestershire of a myocardial infarct. Despite his distinguished career, he died destitute and his widow was supported by the State.

Associated persons

James Douglas Nicolaus Anton Friedreich Sir Charles Bell Stalpart van der Wiel

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