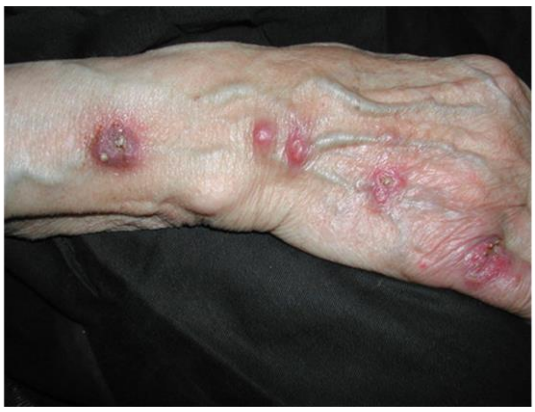
Ulster Medical Journal
Curiositas: Long answers
September 2013

POSTGRADUATE QUESTION

Question

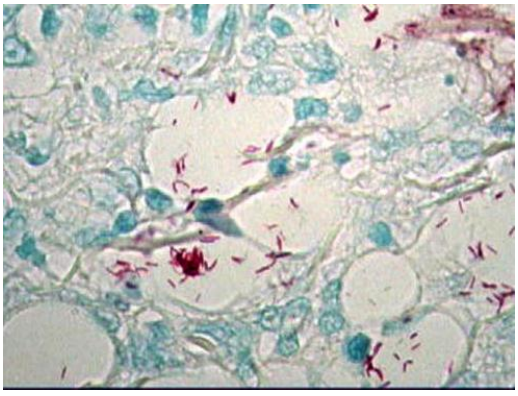
A 68-year-old lady, who lives alone with her pets, was referred to a dermatology clinic. She gave a 3 month history of having 'nodules' on the back of her hand. The nodules appeared to be increasing in number and spreading up her forearm. She was apyrexial and otherwise well. What is the diagnosis? How would you confirm your suspicions? What treatment would help?



Answer

The diagnosis is that of fish tank granuloma. It is mostly commonly acquired by washing a fish tank, in which some of the fish have atypical mycobacteria infection. The infection occasionally occurs as a result of swimming in pools. The infection penetrates through a small cut and after 1 week to 2 months presents red nodules, most often on the dorsum of the hands. With the passage of some months, similar red nodules appear up the forearm, following the lymphatics, so called sporotrichoid spread. Immunosuppression should be excluded: the infection can be more aggressive in HIV patients producing ulcers or tenosynovitis.

A punch biopsy from one of the nodules should be taken from one of the nodules, half of it sent for routine histology and staining for acid-fast bacilli and the other half sent for mycobacterial culture at 30 to 33°C.



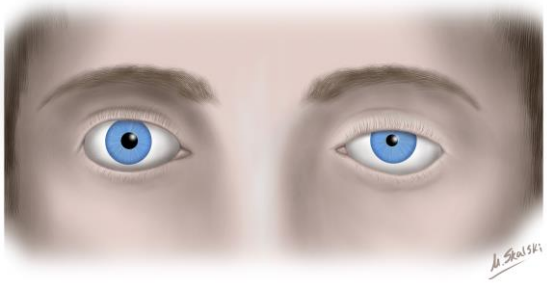
The routine histology shows chronic inflammation and tuberculoid granuloma formation. Rarely are acid-fast bacilli seen. The culture should reveal Mycobacterium marinum in 70 -80% of cases. PCR for detection of 65 KDa heat shock protein gene can also be preformed. The treatment is with 100 mg of minocycline orally twice a day continued for a total of six weeks. Other treatments include clarithromycin or trimethoprim.

Dr David Eedy, Consultant Dermatologist, Craigavon Area Hospital. Southern Health and Social Care Trust, Northern Ireland.

MEDICAL STUDENT QUIZ

Question

A 52-year-old man presents to the emergency department complaining of a throbbing headache affecting the left side of his head. On examination you note partial ptosis on the left side and that the right pupil is bigger than the left.



What diagnosis should you consider first, and what test would be diagnostic?

Dr Paul Hamilton, Consultant Physician, Belfast Health and Social Care Trust.
(Image kindly produced for Curiositas by Dr Matthew Skalski, Diagnostic Imaging Resident, Southern California University of Health Sciences, USA)

Answer

Horner's syndrome is characterised by the clustering of partial ptosis (drooping of the eyelid), miosis (constricted pupil), enopthalmos (a 'sunken' eye) and anhidrosis (absence of sweating). It can be caused by any disease process that interferes with the sympathetic nervous system innervation of the eye. Because of the long course of the sympathetic nerves between their origin in the hypothalamus and their destination at the eye, the potential causes of Horner's syndrome are myriad. Some of the commoner causes include: lesions of the brainstem including tumours and strokes; malignancy of the lung apex; malignancy in the neck; and, as in this case, carotid artery aneurysm or dissection.

Carotid artery dissection is an uncommon condition but it must always be considered in cases like this. The classical history of carotid dissection is one involving trauma to the neck. The trauma can sometimes be trivial. Spontaneous dissection of the vessel is also recognised, and was the culprit in this case. The major clinical effect of carotid dissection is stroke. Treatments include antiplatelets and anticoagulation, endovascular intervention and vascular surgery.

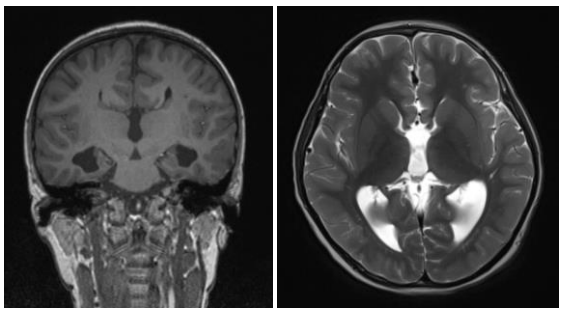
Cluster headache would be another potential diagnosis in this case. Cluster headaches are usually extremely severe and described as causing extreme 'boring' eye pain. They are often associated with lacrimation, but can also cause other signs of autonomic dysfunction - including Horner's syndrome. The pain associated with these headaches classically responds well to the inhalation of 100% oxygen.

Dr Paul Hamilton, Consultant Physician, Belfast Health and Social Care Trust, Northern Ireland.

AND FINALLY…..

Question

What congenital abnormality is responsible for these two classical signs on MRI of brain?

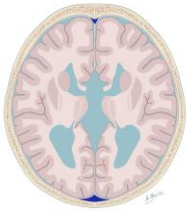


Dr Ian Bickle, Consultant Radiologist, Raja Isteri Penigran Anak Saleha Hospital, Bandar seri Begawan, Brunei Darussalam.

Answer

Dygenesis of the corpus callosum is a developmental anomaly that develops in utero during the late first trimester. It may be complete (agenesis) or be partial. It can be isolated or associated with other neurological abnormalities. The range of potential associated central nervous system findings is diverse. The commonest are; hydrocephalus, intracranial lipoma and Dandy-walker malformation. Dysgenesis may occur as part of a host of syndromes, such as trisomy 18 or Gorlin's syndrome.

The pro-offered magnetic resonance (MR) images illustrate two classical signs of agenesis of the corpus callosum. These are the 'racing car' and the 'moose-head' signs. The 'racing car' sign describes the appearances in the axial plane of the uncharacteristically widely spaced lateral ventricles, resulting from agenesis of the corpus callosum with intervening Probst bundles (white matter tracts). The appearances on axial T2 weighted MR images (Figure 1a & 1b) are reminiscent of a Formula one car seen from above, with the tyres represented by the widely spaced frontal horns, and the dilated trigones (colpocephaly).



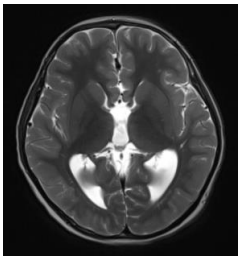
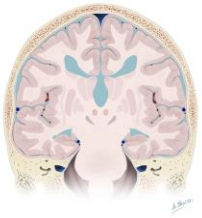


Figure 1a ***Figure 1b***

The 'moose-head' sign refers to the lateral ventricles in the coronal plane (Figure 2a & 2b). The cingulate gyrus is everted into narrowed and elongated frontal horns. This sign has been given a number of other descriptions, including the Viking's helmet, trident and bull's head appearance.



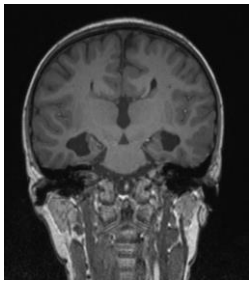


Figure 2a ***Figure 2b***

Other described features of agenesis of the corpus callosum on MR include: a high riding 3rd ventricle which communicates with the inter-hemispheric fissure, a vertical course to the anterior cerebral arteries and hypoplastic hippocampi.

The complete absence (agenesis) is very apparent on the sagittal images (Figure 3), especially when compared with the appearance of a normal patient (Figure 4).

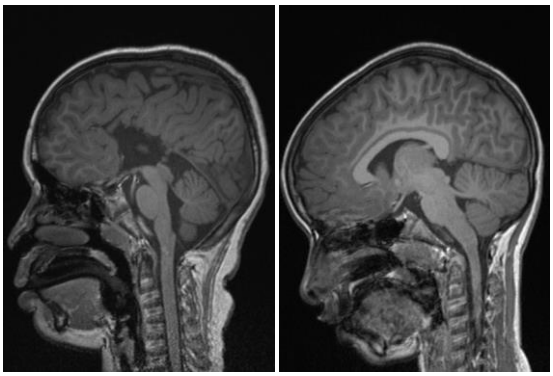


Figure 3 ***Figure 4***

(Art work kindly produced for Curiositas by Dr Matthew Skalski, Diagnostic Imaging Resident, Southern California University of Health Sciences, USA. MRI images courtesy of Dr Ian Bickle).

Fi