Extensive skull base osteomyelitis found radiologically after resolution of otitis externa

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DESCRIPTION
An 80-year-old diabetic man presented with a 6-week history of left otalgia, which had not improved with topical and oral antibiotics from the GP. He was treated with regular aural microsuction, antibiotic and steroid dressings. He had recurrent ear canal granulations removed in clinic. Over this 5-month period, he received courses of three different oral antibiotics. His otalgia and ear discharge resolved, with a normal ear canal on examination.

He was reviewed in clinic 8 days later, where he reported increasing neck pain, dysphagia, weight loss and lethargy. On examination, granulations were seen along the posterior wall of his left ear canal, palatal elevation was absent, with tongue deviation to the left. MRI (figure 1) showed an infective collection behind the left nasopharynx crossing the midline. The left carotid sheath was encased, with C1 osteomyelitis and bilateral mastoid effusions, worse on the left. A subsequent CT (figure 2) showed left skull base osteomyelitis including the occipital condyle, petrous part of the temporal bone, styloid process and anterior aspect of the clivus. Erosion of the carotid canal and foramen ovale were noted. A soft tissue lesion with multiple air foci in the preclival region extended across the midline up to the nasopharynx and contained fragments of destroyed bone.

Examination of the prevertebral lesion via endoscopic sinus surgery approach showed what appeared to be an abscess cavity to the left of the midline, but no pus; biopsy showed no malignancy.

Despite 5 weeks of intravenous tazocin and metronidazole as per culture and sensitivities, he continued to deteriorate clinically. He developed stridor because of bilateral vocal cord palsy, which required surgical tracheostomy. His intravenous antibiotics were changed to meropenem, with improvement in his symptoms and general condition.

Skull base osteomyelitis remains rare \(^1\) \(^2\) and is a recognised life-threatening complication of malignant otitis externa. \(^3\) Other case reports describe central skull base osteomyelitis in the absence of otitis externa. \(^4\) \(^5\) This case shows extraordinary extension across to the contralateral skull base, diagnosed on imaging after clinical resolution of the patient’s otitis externa.

There are three important clinical messages here. (1) Have a high index of suspicion for malignant otitis externa when treating chronic otitis externa, especially in immunocompromised patients. (2) Continue 3 months of effective antibiotic treatment after diagnosing malignant otitis externa, even when clinical improvement is seen.

Learning points

- Have a high index of suspicion for malignant otitis externa when treating chronic otitis externa, especially in immunocompromised patients.
- Continue 3 months of effective antibiotic treatment after diagnosing malignant otitis externa, even when clinical improvement is seen.
Images in...

otitis externa, especially in immunocompromised patients.
(2) Once the diagnosis of malignant otitis externa is made, 3 months of effective antibiotic treatment is required even when the ear canal heals and the patient appears well. (3) Have a low threshold to review antibiotic therapy despite culture and sensitivities if no clinical improvement is seen.

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REFERENCES