The Journal of Laryngology & Otology, E40, 1 of 3.

doi:10.1017/S0022215106003823
Printed in the United Kingdom

Online Only Clinical Record

Synovial chondromatosis of the temporomandibular joint, presenting as parotid mass

N Hammodeh, N A Nasser

Abstract
Synovial chondromatosis is a condition which often affects the major joints. On rare occasions, it may affect the temporomandibular joint. We report such a case, which was mistakenly diagnosed and treated as a parotid mass. We include relevant radiological and histological investigations and a brief literature review.

Key words: Chondromatosis, Synovial; Temporomandibular Joint

Introduction

Synovial chondromatosis of the temporomandibular joint (TMJ) is rare[3] and is characterized by the development of nodules of cartilage which are embedded within the synovium or which lie within the joint cavity.[1,2] The condition commonly affects the knee, elbow, wrist, shoulder and hip.[3]

The aetiology of synovial chondromatosis may include trauma, rheumatoid arthritis and other forms of inflammatory joint disease.[4–6]

The main symptoms of TMJ synovial chondromatosis are pre-auricular swelling, pain, clicking of the jaw joint and limitation of mandibular movement.[3] The presence of a swelling may lead to confusion with a parotid mass and influence treatment along these lines.[3,7]

Case report

An 18-year-old man was referred to another department with a two-month history of a left-sided, pre-auricular swelling associated with pain. Examination revealed a diffuse lump over the left parotid. An ultrasound scan showed a soft tissue mass presumed to be an intra-parotid lymph node, lying within the superficial lobe of the gland. Computed tomography (CT) scans were inconclusive as to the precise location of the mass in relation to the parotid or the TMJ. Superficial parotidectomy was carried out. The histology showed a reactive lymph node with normal surrounding parotid gland tissue.

However, over the following months, the swelling persisted and the patient continued to complain of pain in addition to restricted mouth opening. A repeat CT scan showed increased enhancement in the region of the temporalis muscle.

The patient was then referred to the maxillofacial surgeons, with an enlarging swelling in the left pre-auricular region. A magnetic resonance imaging (MRI) scan showed a TMJ effusion involving the superior and inferior joint spaces in continuity with the swelling over the ramus of the mandible (Figures 1 and 2). There was a soft tissue mass lying within it, consistent with a benign process affecting the upper and lower joint spaces.

The patient underwent exploratory arthrotomy of the TMJ, during which numerous cartilaginous bodies were retrieved. Normal joint synovial membrane was identified and left in situ.

Histological examination showed features of synovial chondromatosis, with nodules of hyaline cartilage in subsynovial tissue showing focal ossification (Figure 3). Review of the MRI scans confirmed features in keeping with synovial chondromatosis.

The patient made a good recovery and remained under regular review. At the time of writing, he had some restriction of jaw movement and residual swelling which was resolving slowly.

Discussion

Synovial chondromatosis is a benign process characterized by the presence of cartilaginous, metaplastic nodules within the synovial connective tissue membranes of articulating joints.[1] The nodules can detach from the membrane as they grow in size and become free fragments within the joint space, receiving their nutrients from the synovial fluid.[1] Apte and Athanasou stated that there may be mineralization and ossification within these cartilaginous nodules in the advanced stages of the disease.[8]

Plain radiographs reveal loose bodies within the joint space.[9] In the study by Blankesteijn *et al.*,[10] only 16 out of 28 affected patients showed evidence of the condition on plain films. Computed tomography and MRI are very good diagnostic aids with which to visualize these loose bodies.[3,11,12] Double contrast arthrotomography may also be used to diagnose the nodules within the joint space[3,13] prior to confirmation by arthroscopy.[3,14]

The differential diagnosis includes parotid disease or tumour, chondrosarcoma, osteoblastoma, myositis ossificans, internal derangement, avascular necrosis, and other joint disease known to produce loose bodies (such as rheumatoid arthritis, osteochondritis ossificans and degenerative arthritis).[4,15,16]

From the Department of Oral & Maxillofacial Surgery, Charing Cross Hospital NHS Trust, London, UK.

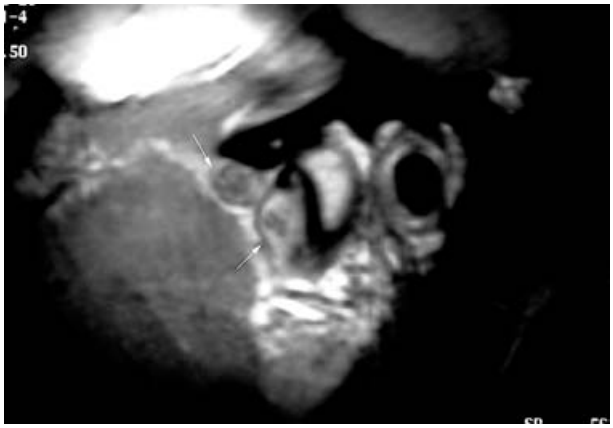

FIG. 1

Oblique, saggital magnetic resonance imaging view showing loose bodies in the superior and inferior temporomandibular joint spaces. Arrows indicate superior and inferior spaces.

Conclusion

Pre-auricular swelling is often a recognized presenting symptom of parotid tumour. However, the possibility of TMJ disease, including synovial chondromatosis, should be considered in the full differential diagnosis. This paper highlights such a dilemma.

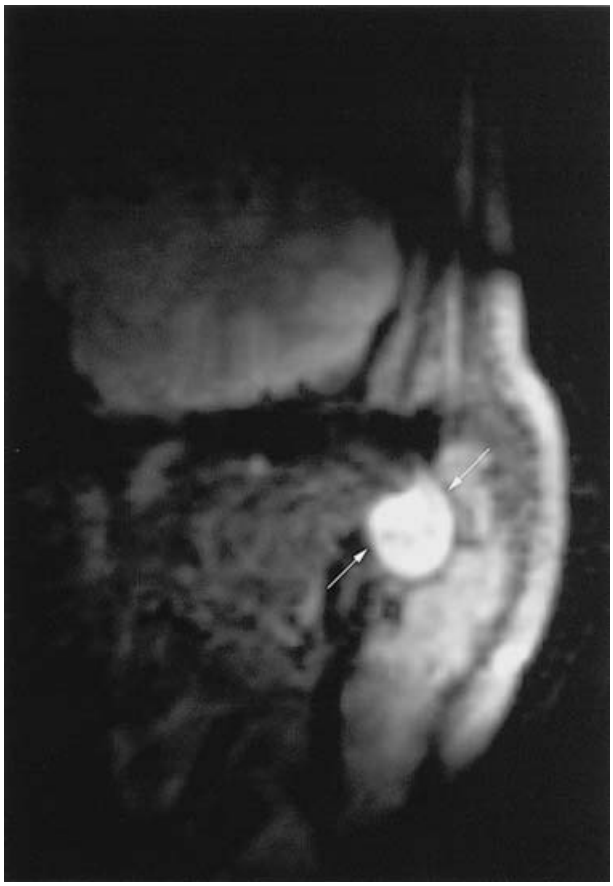

FIG. 2

Coronal magnetic resonance imaging view of the temporomandibular joint. Arrows indicate soft tissue mass.

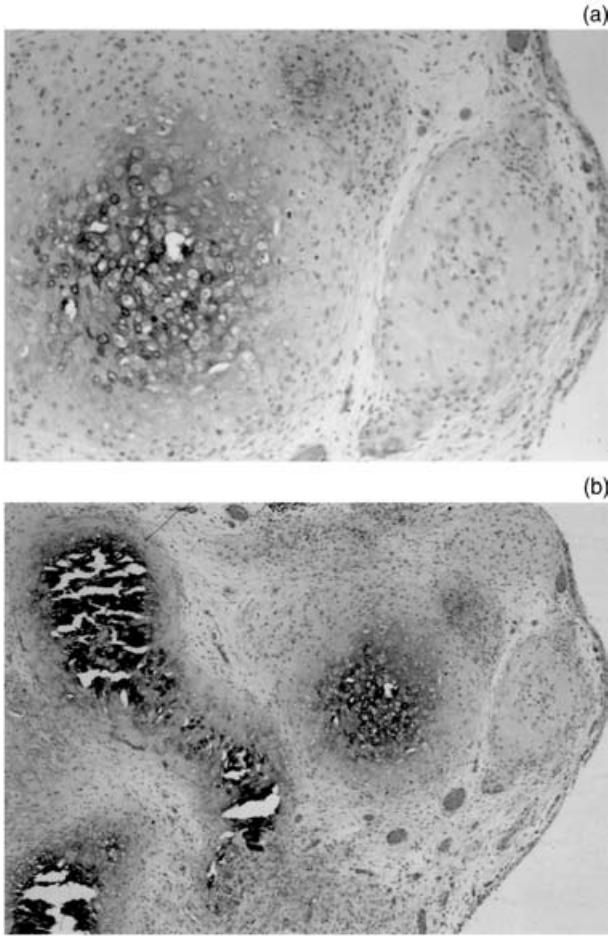

FIG. 3

Histology slides of the subsynovial tissue, showing the nodule of hyaline cartilage with focal ossification (a) ×40, (b) ×10.

Acknowledgements

We thank Dr Dominic Blunt (consultant radiologist) and Dr Ann Sandison (consultant histopathologist) at Charing Cross Hospital for their assistance and contribution to this report.

References

1 Reinish EI, Feinberg SE, Devaney K. Primary synovial chondromatosis of the temporomandibular joint with suspected traumatic etiology. Report of a case. *Int J Oral Maxillofac Surg* 1997;**76**:419–22
2 Aydin MA, Kurtay A, Celebioglu S. A case of synovial chondromatosis of the TMJ: treatment based on stage of the disease. *J Craniofac Surg* 2002;**13**:670–5
3 Miyamoto H, Sakashita H, Wilson DF, Goss AN. Synovial chondromatosis of the temporomandibular joint. *Br J Oral Maxillofac Surg* 2000;**38**:205–8
4 Deboise A, Roche Y. Synovial chondromatosis of the temporomandibular joint, possibly secondary to trauma: a case report. *Int J Oral Maxillofac Surg* 1991;**20**:90–2
5 Jones HT. Loose body formation in synovial osteochondromatosis with special reference to the etiology and pathology. *J Bone Joint Surg* 1924;**22**:407–58
6 Ronald JB, Keller EE, Weiland LH. Synovial chondromatosis of the temporomandibular joint. *J Oral Surg* 1978;**36**:13–19
7 Thompson K, Schwartz HC, Miles JW. Synovial chondromatosis of the temporomandibular joint presenting as a

https://doi.org/10.1017/S0022215106003823 Published online by Cambridge University Press

parotid mass. *Oral Surg Oral Med Oral Pathol* 1986;**62**: 377–80
8 Apte SS, Athanasou NA. An immunohistological study of cartilage and synovium in primary synovial chondromatosis. *J Pathol* 1992;**166**:277–81
9 Klenoff JR, Lowlicht RA, Lesnik T, Sasaki CT. Mandibular and temporomandibular joint arthropathy in the differential diagnosis of the parotid mass. *Laryngoscope* 2001; **111**:2162–5
10 Blankesteijn J, Panders AK, Vermey A, Scherpbier AJ. Synovial chondromatosis of the temporo-mandibular joint. *Cancer* 1985;**55**:479–85
11 van Ingen JM, de Man K, Bakri I. CT diagnosis of synovial chondromatosis of the temporomandibular joint. *Br J Oral Maxillofac Surg* 1990;**28**:164–7
12 Igarashi C, Kobayashi K, Imanaka M. Image findings of synovial chondromatosis of temporomandibular joint: report of eight cases and review of literature. *J Jpn Stomatol Soc* 1996;**45**:462–9
13 Miyamoto H, Sakashita H, Miyata M, Kurita K. Arthroscopic diagnosis and treatment of temporomandibular joint synovial chondromatosis: report of a case. *J Oral Maxillofac Surg* 1996;**54**:629–31
14 Carls FR, von Hochstetter A, Engelker W, Sailer HF. Loose bodies in the temporomandibular joint: the advantages of arthroscopy. *J Craniomaxillofac Surg* 1995; **23**:215–21
15 Lustman J, Zeltser R. Synovial chondromatosis of the temporomandibular joint: review of the literature and case report. *Int J Oral Maxillofac Surg* 1989;**18**:90–4
16 McCain JP, De La Rua H. Arthroscopic observation and treatment of synovial chondromatosis of the temporomandibular joint: report of a case and review of the literature. *Int J Oral Maxillofac Surg* 1989;**18**:233–6

Address for correspondence:
Mr N Hammodeh,
Senior House Officer,
Department of Oral & Maxillofacial Surgery,
Charing Cross Hospital,
Fulham Palace Road,
London W6 8RF, UK.

E-mail: nhamodeh@yahoo.com

Mr N A Nasser takes responsibility for the integrity of the content of the paper.
Competing interests: None declared