ROUNDUP360

Oncology

Chondrosarcoma of the cervical spine – a surgical challenge

There must be few more worrying locations for a musculoskeletal tumour than in the cervical and cervicothoracic spine. Lesions here are a real surgical challenge. Surgeons from **Shanghai (China)** have looked at the clinical outcome of various resection protocols for such tumours. They admit that *en bloc* resection has long been considered an ideal treatment for these tumours but is not always surgically feasible. There are many critical neurovascular structures in the vicinity. The team reports on 15 patients with a chondrosarcoma in the cervical and/or cervicothoracic spine, of whom 12 underwent piecemeal resection and three *en bloc* excision. Adjuvant therapy included local chemotherapy and post-operative cyberknife radiotherapy. With a mean follow-up of 58.7 months, the team found no recurrences in the patients who had undergone *en bloc* resection but six recurrences in those who had received piecemeal removal.[1] The result is clear, *360* feels. If you are unfortunate enough to develop one of these tumours, an *en bloc* resection is what you need. Yet this is hugely complex surgery, so be sure your surgical team have their eye in before they start.

Do excision margins matter?

With chondrosarcomas, there are few studies looking at long-term outcome and there is much debate surrounding prognostic factors. A report from **Berlin (Germany)** is thus interesting. Researchers looked at 115 patients with a primary central chondrosarcoma of bone who had been treated according to a uniform standard protocol, in order to determine the factors that influenced survival. They found 115 patients with a primary central chondrosarcoma of bone who presented with localised disease and had a minimum follow-up of five years after diagnosis. Of these patients, 94 had undergone surgical resection with a wide, adequate margin and 21 had an inadequate one. The team found that it was the grade of tumour and its location that influenced survival. There was no difference between males and females, while the young fared better than the old. Surprisingly, and perhaps key to this paper, the quality of surgical margin did not influence outcome. However, this did not apply to metastases as long-term survival after secondary metastatic disease was only seen when metastases were resected with wide margins.[2] An interesting paper, *360* feels, as we had long held the view that adequate margins were critical to a successful outcome. Perhaps not, says this publication.

Workers from **Milwaukee (USA)** have also investigated the significance of excision margins in a Level III study that looked retrospectively at 117 patients with soft-tissue sarcomas. They wished to establish whether a close resection margin resulted in an increased incidence of locally recurrent disease and whether additional factors, including radiation therapy, outside biopsies, and tumour biology, affected the risk of local recurrence. Their findings? That relatively low recurrence rates can indeed be achieved even with close margins.[3]

Radiation-induced sarcomas

One cause of soft-tissue sarcoma is radiation. It is said that these tumours, rare though they may be, have a worse prognosis than sporadic soft-tissue sarcomas. Researchers from **Toronto**, **Ottawa**, and **Montreal (Canada)** and **Nashville (USA)**, have come together to look at this by examining four prospectively collected databases. This allowed them to collect 44 patients and to reach the conclusion that despite aggressive surgical treatment, patients with a radiation-induced sarcoma remain at greater risk of both local and systemic recurrence. However, functional outcomes are similar for radiation-induced and sporadic tumours.[4]

Other workers have also looked at radiation-induced sarcomas, this time from **Bologna (Italy)**. Researchers here retrospectively studied 52 patients with a post-radiation sarcoma who had been treated over a 26-year period. The mean age was 49 years and the mean follow-up was 45 months. The work established that the risk of a post-radiation sarcoma was 0.06% at a mean latency of 15 years after radiation therapy. The most common histology was osteosarcoma, followed by a malignant fibrous histiocytoma and fibrosarcoma. All sarcomas were high grade. Survival was 85% at one year, 51% at two years, declining to 45% by five years.[5] *360* notes that this work agrees with the earlier publication from Canada and the USA[4] that the prognosis of a post-radiation sarcoma is indeed poor.

Giant cell tumours and bone cement

From **Birmingham (UK)** comes an interesting paper on the surgical management of giant cell tumours in bone. Does the addition of bone cement improve the rate of local recurrence after curettage, the researchers ask? They undertook a retrospective review of 330 patients with a giant cell tumour who had been treated primarily by intralesional curettage. Adjuvant bone cement had been placed in the tumour cavity in 84 patients (25%). The local recurrence rate for curettage alone was 29.7% compared with 14.3% for curettage and cementation. So cement clearly works. However, the presence of cement was not totally perfect as its use was associated with a higher risk of subsequent joint replacement.[6]

Staying with giant cell tumours of bone, there is some interesting work from **Los Angeles (USA)**, which acknowledges that there is no consensus as to which surgical approach is appropriate for the tumour or which patients are at higher risk for recurrence or metastases. Researchers retrospectively reviewed the records of 230 patients who had undergone treatment for a giant cell tumour of bone over a 30-year pe-

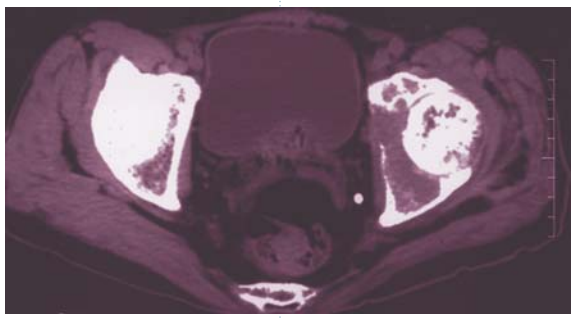
riod. There was a median follow-up of 47 months. The overall incidence of recurrence was 10%, but 2% for pulmonary metastases. Local recurrence was higher (12%) for those who had undergone intralesional curettage than for those who underwent resection (2%). It appears that there are subsets of patients with a giant cell tumour of bone that are at higher risk of recurrence.[7] *360* agrees with the authors that patients with a giant cell tumour should perhaps be followed up more closely after surgery.

Enchondromatosis and malignant change

Enchondromatosis is a feature of Ollier's disease and Maffucci syndrome, the lesions theoretically run the risk of developing into a chondrosarcoma over time. Yet what are the risks? Because these are rare conditions, they lend themselves to a multicentre study, so a report from **Leiden (The Netherlands)** using data from 13 European centres and one national databank, is helpful. Together they found 144 patients with Ollier's disease and 17 with Maffucci syndrome and established an overall rate for chondrosarcoma of 40%. This risk was increased for lesions in the pelvis, the long bones and the axial skeleton. *360* thus notes that these are the groups who require regular screening in order to identify malignant change early on.[8]

Axial or appendicular Ewing's sarcoma – which fares best?

The axial skeleton is not a good place to have many things, *360* notes. This is well highlighted by research from **Pittsburgh (USA)** reporting on the outcome of Ewing's sarcoma of the axial skeleton from a single institution. They found 67 patients with a Ewing's sarcoma, 34 of which were axially located and the remaining 33 in an appendicular location. The results showed that



patients with an axial Ewing's did not fare as well as those with an appendicular lesion. Perhaps the tumours are different, *360* feels? The authors appear to feel this too, recommending that additional studies be undertaken to determine any biological differences between axial and appendicular Ewing's sarcoma.[9]

Diagnosing a sarcoma – we are no better than we were

You would have thought by now that we would be more tumour aware than our orthopaedic forefathers. It appears not says a paper, again from **Birmingham (UK)**. Early diagnosis is obviously key to success and survival. The researchers identified 2568 patients with a primary bone sarcoma and 2366 with a soft-tissue sarcoma; all had been referred to a specialist orthopaedic oncology unit over a 25-year period. Yet it appears that the median duration of symptoms for a bone sarcoma had actually increased since the year 2000, from a mean of 16 weeks before the millenium to 20 weeks subsequently. However, it had remained unchanged at 26 weeks for soft-tissue sarcomas. Not impressive, thinks *360*. We agree fully with the authors that there is huge room for improvement in diagnosing bone and soft-tissue sarcomas. New strategies are urgently needed.[10]

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