



Oncology Free Papers

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Hall 4

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EXPECTED METASTATIC SPINE OUTCOMES (EMSO): A 4-YEAR REVIEW OF PATIENTS' SURVIVAL AND NEUROLOGY

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Introduction: Metastatic spinal cord compression is defined radiographically as an epidural metastatic lesion causing true displacement of the spinal cord from its normal position in the spinal canal. The spine is the third most common site for metastasis after lung and liver. Approximately 70% of cancer patients have metastatic disease at death.

Aims: Identify survival rates and neurological outcomes of operatively and non-operatively managed patients presenting with Metastatic Spinal Cord Compression.

Methods: Prospective data collection/analysis over a four-year period. Total of 397 patients identified; all of whom were discussed in a multi-disciplinary forum. Minimum follow-up of six months (6-36 months). Non-operatively managed patients that were placed on a palliative pathway or those who died within 72 hours were excluded from the analysis.

Results: A total of 397 patients were identified in the study, 59.2% were males (235/397) and 40.8% were females (162/397). A mean age of 66.8 years (median 69, mode 72 and range 18-94 years). A greater proportion of patients were managed non-operatively representing 62.2% (255/397). Prostate, lung, breast, myeloma, renal cell carcinoma (RCC) and lymphoma accounted for over 75% of all primary tumours (n = 305). The commonest occurring tumours were included in the analysis. The overall 90-day survival amongst these patients was 84.4% and 56.3% for operative management and non-operative management respectively (p < 0.0001). Operatively managed patients showed maintenance or improvement in function (weight bearing or ambulatory status) in 72.5% (103/142) of cases compared to 68.6% (175/255) in the non-operatively managed group (p = ns). There was a deterioration in functional outcome (bed-bound but moving or paralysed) in 19.7% (24/142) in the operative group and 10.6% (27/255) in the non-operative group (p = 0.0024).

Conclusions: Operative intervention certainly plays a role in patients with MSCC where a multi-disciplinary team approach is adopted; however, there are associated risks.

Disclosure: Nothing to disclose.

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SHORT TERM BENEFITS OF PASSIVELY ELUTING AGLUNA SILVER ARE NOT PROVEN IN THE MEDIUM TERM FOR PREVENTING INFECTION IN EPRS

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Introduction: In 2015, Wafa et al. reported the early outcomes of a high risk case matched cohort of endoprosthetic replacements (EPRs) with silver-treated versus untreated EPRs and demonstrated lower rates of prosthetic joint infection (PJI), and improved successes following debridement and implant retention (DAIR) and two-staged revision of EPRs for PJI. The aim was to evaluate the same outcomes in the medium-term.



Patients and methods: One hundred and sixty-nine patients, mean age 42.2 years at surgery, were retrospectively reviewed after median 6.1 years (IQR 5.2 years). Procedures were undertaken between 2006 and 2011. Fifty (29.5%) patients underwent primary reconstruction, 76 (45%) single-stage and 43 (25.5%) had two-stage revisions for infection.

The mean follow-up in the silver-treated group was statistically shorter than the untreated group at 4.8 years versus 7.3 years ($p < 0.001$, Welch t-test).

The overall infection rate in the silver versus control group was 18.3% versus 20.1% ($p = 0.511$, chi-square). Kaplan-Meier analysis failed to show a significant difference between silver and untreated groups ($p = 0.33$, cox ph). Sub-group analysis showed no-difference between silver and untreated in the primary and single-stage revision groups ($p = 0.27$, $p = 0.14$, chi-square respectively).

Those patients undergoing two-stage revision surgery, 15/22 silver-treated (71%) had successful eradication of PJI versus 11/21 untreated patients (52%) ($p = 0.29$, chi-square). Nineteen patients underwent a DAIR procedure for acute PJI, of which 7/11 silver-treated remain infection free vs 4/8 untreated implants ($p = 0.552$).

Overall failure leading to amputation was lower in the silver-treated cohort (3.5%) compared to a rate of 12.9% in the control group ($p = 0.03$).

Conclusions: In the medium term, silver-treated EPRs in high-risk patients are not more successful in preventing PJI nor managing PJI with two-stage revisions and DAIR. The amputation rate was lower in the silver-treated group, although this may be influenced by the short length of follow-up.

Disclosure: Nothing to disclose.

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OUTCOMES OF HIP AND PELVIC RECONSTRUCTION USING POROUS TITANIUM REVISION ACETABULAR SYSTEMS AND RESTORATION STEMS IN PATIENTS WITH PERI-ACETABULAR AND PROXIMAL FEMORAL DEFECTS SECONDARY TO METASTATIC DISEASE - A SINGLE OPERATOR CASE SERIES

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Background: Metastatic bone disease is an area there is significant variation in patient management, with evidence primarily from small case studies, as opposed to controlled trials. Reconstruction of affected hip joints using endoprosthetic implants has recently been favoured to fixation due to risk of failure. This study aims to explore the complications and outcomes associated with restoration stems and porous titanium revision acetabular systems in patients with proximal femoral and acetabular defects.

Methods: This retrospective case series was carried out by collating single operator data over a 10-year period (June 2008 to November 2018) from online patient notes. A small group of patients who have survived to date were contacted by telephone and patient reported EQ-5D health index scores and Oxford Hip Scores were obtained.

Results: Eighty-four procedures were carried out on a total of 79 patients, with five undergoing bilateral procedures. Age ranged from 33 to 88 with a mean of 65.5. This case series demonstrated high rates of medical complications peri-operatively, with 22.6% of patients affected and a mortality rate of 7.1% during the same admission. Two patients developed a deep infection and required operative intervention for this. Only one patient in the group had evidence of prosthetic loosening, and this was neither the restoration stem nor acetabular system that was affected. Transfusion rates within this group are higher than expected in elective hip surgery, with 53.6% of patients requiring packed red cells and an overall mean transfusion volume of 1.36 units. Post-operative assessment in this group can be difficult and lead to diagnostic uncertainty, as demonstrated by the three negative joint aspirations carried out to exclude infection due to ongoing pain.



Conclusions: This series demonstrates the long-term efficacy of these implants while highlighting the associated morbidity with surgery of this kind.

Disclosure: Nothing to disclose.

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STAGING WORK UP IN CHONDROSARCOMA: IS A BONE SCAN WARRANTED FOR THE METASTATIC WORKUP OF CHONDROSARCOMA? A RETROSPECTIVE STUDY

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Objectives: To assess the value of a bone scan in the metastatic workup of a patient diagnosed with chondrosarcoma of bone

Design: Retrospective analysis.

Methods: Four hundred and eighty patients of extremity chondrosarcomas were identified with the help of nuclear imaging records and pathology department data base over a period of 12 years. Their clinical, radiological and histopathological details were retrieved from case files and electronic medical records. All cases were staged with a CT scan of thorax and bone scan or a whole body PET-CT. All reported and suspicious cases of metastasis were reviewed again by an experienced radiologist and a nuclear medicine expert for this study. Fifty-three patients had to be excluded from the study due to incomplete staging modalities.

Results: Four hundred and twenty-seven patients were available for final evaluation. No grade I chondrosarcoma (53) had evidence of metastasis. In the remaining high grade chondrosarcomas (374), isolated lung metastasis was seen in nine percent (35 cases) (grade II-31, grade III-4), combined lung and bone metastasis was seen in 0.5% (2 cases) (all grade II) and isolated bone metastasis was seen in one percent (four cases) (all grade II).

Conclusions: The present study shows that the incidence of bony metastasis in extremity chondrosarcomas is extremely low. A non-contrast CT thorax would be adequate for staging in conventional chondrosarcomas. In light of the present results we feel bone scan may be omitted from the staging work up of conventional skeletal chondrosarcomas. It may be reserved for only symptomatic patients.

Disclosure: Nothing to disclose.

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THE ARTICULARIS GENU MUSCLE

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Background: The aim of this cadaveric study was to describe the anatomy of the Articularis Genu (AG), classically described as a vestigial structure of uncertain significance. We hypothesise AG is a discrete muscle. In orthopaedic oncology, it is recognised as useful in obtaining a clear margin in distal femur sarcoma resection.

Methods: An adapted extensile medial parapatellar approach (Stevens et al., 2018) was used to dissect 24 thighs from 12 whole, embalmed, human cadavers. Photographs were taken of the muscle bulk deep to the fascia of vastus intermedius and features of its morphology recorded, including size, origin, and neurovascular supply.



Results: All cadavers had a discrete AG muscle with mean length 16.1 cm (± 1.6 cm). Microscopic histological examination confirmed striated muscle. Macroscopic examination showed alignment of skeletal muscle fibres of AG were different to VI. Vascular supply was identified from the deep circumflex branch of the femoral artery and innervation from intermuscular branches of the deep femoral nerve in all specimens.

Conclusions: AG is a substantial and discrete muscle deep and separate to vastus intermedius. This can be viewed as the 5th quadriceps muscle.

Implications: This is significant in oncological resections as this muscle may cover distal femoral tumors thus allowing a clear anterior resection margin, while preserving overlying quadriceps function.

Disclosure: Nothing to disclose.

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APPLICATION OF EPINEURAL DISSECTION FOR LIPOSARCOMA ENCASEMENT OF THE SCIATIC NERVE

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Background: The aim of this study was to evaluate the functional outcome and tumour control rate of patients with sciatic nerve involvement from liposarcomas of the posterior thigh, who underwent nerve preserving surgery utilising epineural dissection.

Methods: We included 28 patients of mean age 58.36 (32 to 84) who were surgically treated with marginal resection and epineurectomy for liposarcoma with known sciatic nerve involvement between March 1997 and January 2010. Mean follow up was 52.8 months (1 to 100). All patients underwent preoperative staging and follow up at our Sarcoma Clinic, local and systemic recurrences were recorded; functional outcome was assessed by applying the Toronto extremity salvage score (TESS).

Results: Sciatic nerve involvement extended for 13 - 30 cm. Soft tissue reconstruction was required in three cases. Twenty-four patients underwent postoperative adjuvant radiotherapy. There was no local recurrence of disease within any of the patients. Three patients have died of unrelated causes. Compared to a group-matched cohort of 28 patients without sciatic nerve involvement there were no significant differences in local and systemic recurrence rate or postoperative survival.

Conclusions and implications: We conclude that sciatic nerve preserving surgery is possible and safe when using a planned epineural dissection in large volume tumours encasing the sciatic nerve.

Disclosure: Nothing to disclose.

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MANAGEMENT OF OSTEOFIBROUS DYSPLASIA OF THE ULNA AFTER RESECTION WITH ELASTIC INTRAMEDULLARY NAIL AND NON-VASCULAR FIBULA GRAFT

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Introduction: Osteofibrous dysplasia is a rare, non-neoplastic condition of unknown etiology that affects the long bones. It frequently is asymptomatic. Which usually affecting proximal femur, tibia, humerus, ribs, and craniofacial bones in decreasing order of incidence. Cases are diagnosed within the first three decades of life, though most commonly diagnosed in children and adolescents. Involvement at the ulna has also been reported in few cases. We are describing rare case of osteofibrous dysplasia of ulna managed after resection with fibular autograft and elastic intramedullary nail.



Case presentation: Present case is 27 year old female housewife by occupation presented with swelling over left forearm since last six years (figure 1). Painless, insidious in onset and slowly progressive. Biopsy confirmed osteofibrous dysplasia of ulna. We decided to manage with resection and non-vascular fibular graft with elastic nail fixation.

Conclusions: Osteofibrous dysplasia of ulna is very rare case which can be managed with resection and curettage with fibular bone autograft and which can be fixed with intramedullary nail.

Disclosure: Nothing to disclose.

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DOES THE OPTIMODEL APPLICATION HELP TO DETERMINE THE MANAGEMENT STRATEGY IN LONG BONE METASTATIC DISEASE?

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Background: The management of patients presenting with metastatic bone disease (MBD) is very complex. OPTIModel is an app designed to help the clinician decide the treatment of long bone metastasis based upon the type of primary tumour, the location, extent and presentation of the metastasis. The aim of this study was to validate this app by applying it to our cohort of patients.

Methods: Data was prospectively collected on all patients with MBD managed in our unit between 2008 and 2018. The data was inputted into the OPTIModel app and the estimated survival period together with the proposed management were noted. Pearson χ^2 test was used to correlate our management with that proposed by OPTIModel. Cox regression analysis was used to analyse survival per treatment (endoprosthetic replacement, arthroplasty, intramedullary nailing, fixation or non-operative) and primary tumour type.

Results: Our cohort comprised 195 patients who underwent 208 interventions. There were 90 males and 105 females. The common primary tumours were breast (27%), myeloma (16%), lung (15%), prostate (13%) and renal (9%). Of these patients, 21% had known visceral metastasis upon diagnosis of MBD. The OPTIModel estimated survival period correlated in 34% of our patients. Only 37% of our patients had the same management as that advised by the app with relatively more agreement in the intramedullary nailing group. The Pearson χ^2 test showed weak correlation between OPTIModel and management. The mean survival was 15.1 months (95% CI 10.4 to 19.9).

Conclusions: Applying the OPTIModel application to our cohort of patients highlighted significant differences between the estimated and observed survival periods, as well as proposed treatment.

Implications: Further research to establish a new algorithm to guide MBD management is warranted.

Disclosure: Nothing to disclose.