

LETTER TO THE EDITOR

Modified Unipolar Hemiarthroplasty for the Treatment of Metastatic Lesions of Proximal Femur with Pathological Fractures: Case Series of Six Patients

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Dear editor,

We read with great interest the case series by Lim *et al* in the November 2019 issue entitled “Modified Unipolar Hemiarthroplasty for the Treatment of Metastatic Lesions of Proximal Femur with Pathological Fractures: Case Series of Six Patients”¹. In their paper, they presented their experience in using “modified unipolar hemiarthroplasty for reconstruction after proximal femur resection for pathological fracture of the proximal femur secondary to metastatic lesions. This innovative, cost-effective implant can replace the otherwise expensive endoprosthesis.

The aim of treating patients with pathological fracture of the proximal femur secondary to metastatic lesion is to alleviate pain, improve function and quality of life and to prevent further surgery¹⁻³. Surgical options include reconstruction with hemiarthroplasty and stabilisation with cephalomedullary nailing with/without cement augmentation. The factors to consider when considering the surgical option include site of fracture (neck, intertrochanteric or subtrochanteric), the patient’s prognosis (predicted survival time) and patient’s suitability for surgery. In the case series presented by the authors, all patients had poor prognosis. All except one patient had modified Baur score of 0-1, indicating a median overall survival of 4.8 months. On top of that, all patients had at least two of the negative prognostic factors (pathological fracture, visceral metastasis, lung cancer and anemia) based on the Scandinavian Sarcoma Group skeletal metastasis register, implicating an extremely short survival. All but one patient deceased within four months after the surgery. Besides that, two of the patients had other long bone lesions (one tibia and one femur) that may complicate the healing and ambulatory status of the patients.

Taking into consideration of all these factors, we are of opinion that those patients will be benefitted from “minimal surgery” of long cephalomedullary nail and cement augmentation. Through this procedure, the surgery time will be shortened, and the blood loss will be minimised. Bearing in mind that all patients had lung metastasis at the time of surgery, a prolonged surgery will increase the risk of general anaesthesia (if operated under general anaesthesia). After this procedure, the patient will be able to ambulate immediately with wheelchair, hence the complications of immobilisation will be minimised. Meta-analysis by Putnam *et al* show that re-operation rates is the same between intramedullary nailing and arthroplasty in treating pathological fracture of proximal femur pertrochanteric region³. Finally, the cost of a cephalomedullary nail do not differ much compare to the implant proposed by the authors. While the authors’ innovative implant is commendable, it should be used in carefully selected patients so that the benefits outweigh the risk of the procedure.

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RESPONSE TO LETTER TO EDITOR

Thank you very much for the interest shown in our paper and also the very valuable comment and opinion given. It is highly appreciated.

As mentioned by Issack *et al*¹, pathologic femoral neck fractures secondary to metastatic disease are best treated with prosthetic replacement. They also mentioned that the indications for choosing one surgical implant option over another are not clear for intertrochanteric and subtrochanteric fractures¹. We do agree with the opinion of long cephalomedullary nail and cement augmentation if there is adequate bone in the femoral neck and head to support the implant.

However, due to extensive metastatic lesions, not every case of proximal femoral metastasis with pathological fracture will have adequate bone stock to support cephalomedullary

nail in spite of cement augmentation. We experienced construction failure in some earlier cases, which were stabilised with nail or plate and augmented with cement, secondary to disease progression. For the patients in our report we thought they were also at high risk of early failure with the similar methods of fixation. Thus, we embarked on the technique of "modified unipolar hemiarthroplasty".

It was the beginning of our learning curve while those cases were performed, we have learned a lot, and since then, were more selective, the surgical time and blood lost had also much reduced. In carefully selected patients, we are constantly striving to provide much better quality of life with lesser construct failure with our modified unipolar hemiarthroplasty.

Once again, we appreciated and thank you very much for your interest in our paper.

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