

**Number & Title: 11343: Polypropylene mesh for hip capsule reconstruction – Does it affect the dislocation and infection rate in bone and soft tissue tumors?**

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**Introduction:**

Often the extent of tumor may necessitate the resection of a considerable amount of hip joint capsule during proximal femur resection resulting in high incidence of post operative prosthesis dislocation.

**Purpose:**

The aim of the study was to determine the effectiveness of polypropylene mesh in reducing incidence of hip dislocation when used to reconstruct the hip capsule after the proximal femur resection and its influence on surgical site infection.

**Material and method:**

A retrospective analysis of a prospectively maintained sarcoma database identified 112 patients with a proximal femoral replacement after oncologic resection between January 2006 to May 2014. 94 patients had a proximal femur replacement and 18 had total femur replacement. 79 patients ( Group A) had adequate native capsular tissue after tumor resection and did not require any additional capsular augmentation while 33 patients ( Group B) needed a polypropylene mesh to reconstruct the hip capsule due to inadequate capsule after tumor resection. Rate of dislocation and surgical site infection were analysed at a follow up of 1 year.

**Result:**

Nine patients were lost to follow up and two died due to disease within a year of surgery, 101 patients were available for final analysis. The mean resection length of tumors in Group A and Group B was 24 cm and 20 cm respectively. In Group A 66 % (46 out of 70) had received chemotherapy against 48% (15 out of 31) of Group B. 13% ( 9 out of 70) of Group A had received radiotherapy to local site compared to 3 % ( 1 out of 31) of Group B. Overall dislocation rate in our study was 3 % ( 3 out of 101). Group A had 4 % ( 3 out of 70) dislocation rate compared to 0% (0 out of 31) in Group B (p=0.551). Overall infection rate was 14 % (14 out of 101). 10% (7 out of 70) of Group A had infection compared to 23% (7 out of 31) in Group B (p = 0.120).

**Conclusion:**

Polypropylene mesh serves as an inexpensive readily available material to reconstruct the hip joint capsule and create a stable hip after proximal femur resection. In spite of having lower risk factors in mesh group, our data showed an increased infection rate in terms of absolute numbers but failed to reach statistical significance.