EARLY PROSTHETIC COMPLICATIONS AFTER UNCEMENTED AUSTIN MOORE AND CEMENTED THOMPSON HEMIATHROPLASTY. A MULTICENTRE REVIEW OF 1118 PATIENTS.

P.Weinrauch, W. Moore, D. Shooter, M. Wilkenson, E. Bonrath, N. Dedy, T. McMeniman, M. Jabur, S. Whitehouse, R. Crawford

School of Engineering Systems, Queensland University of Technology.

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Introduction & Aims

For displaced intracapsular fractures of the femoral neck the most frequently employed hemiarthroplasty in Australia is the Uncemented Austin Moore (UAM) prosthesis. Despite concerns regarding the poor functional outcome and increased revision rates associated with the UAM prosthesis, apprehension about the systemic effects of PMMA acrylic cement implantation in the elderly patient continues to influence prosthesis selection. This study examines the incidence early prosthesis related complications after Uncemented Austin Moore (UAM) and Cemented Thompson (CT) hemiarthroplasty implantation for the management of femoral neck fractures.

Method

A multicentre (5 hospital) retrospective review of charts and radiographs was conducted in order to determine early prosthetic complications associated with the CT and UAM prostheses over a 6 year period. This study considered four end points:

1. Intraoperative periprosthetic fracture;
2. Reoperation on the same hip (any reason) within 1 month of index procedure;
3. Dislocation within 1 month of index procedure; and
4. Intraoperative death.

Results

1118 implantations were included for data analysis after exclusions. The CT prosthesis was used in 738 (66%) of patients, and UAM in 380 (34%). Intraoperative periprosthetic fractures were sustained in 45 (11.8%) of UAM and 13 (1.8%) of CT implantations ($p<0.0001$). Intraoperative periprosthetic fractures were associated with an increased requirement for early reoperation ($p=0.05$). No statistical difference in UAM intraoperative periprosthetic fracture incidence could be observed between the hospitals participating, regardless of the proportional use of each prosthesis. Registrars and Consultants had equivalent intraoperative periprosthetic fracture rates, although the total number of procedures conducted by Consultants was low.

No statistical difference in the incidence of reoperation or prosthetic dislocation within 1 month of the index procedure could be detected between the CT and UAM implants. Only 1 intraoperative death was recorded. This patient was being managed for an acute femoral neck fracture with a Thompson prosthesis and cement was considered a contributing factor to the arrest.

Conclusion

The results of this study support the use of the Cemented Thompson prosthesis for the management of femoral neck fractures to reduce the high incidence of intraoperative periprosthetic fractures and associated requirements for early reoperation experienced with the Uncemented Austin Moore.