MINIMUM 10 YEAR OUTCOME OF BIRMINGHAM HIP RESURFACING (BHR)
A REVIEW OF 518 CASES FROM AN INTERNATIONAL REGISTER.
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The traditional treatment of Total Hip Replacement, though reasonably successful in elderly relatively inactive patients, offers unacceptably poor long term outcomes for young, active patients. This often results in a saga of multiple revisions and associated complications. The Birmingham Hip resurfacing belongs to a group of novel prosthetic designs, Metal on Metal Hip Resurfacing (MOMR), which offer a potential solution to the young patient. The procedure is “bone conserving”, and in the event that a revision might become necessary there is still a virtually intact femur making a primary THR possible without undue complications associated with revisions.

AIM
Utilising an international register we assessed a large cohort of 5000 consecutive, primary BHR independently at 1-10 years:
• To give an independent assessment of outcome of 518 hips having reached a minimum of ten years follow-up.
• To assess a revision rate of the BHR consistent with the British National Institute for Health and Clinical Excellence (NICE) recommendation of less than 1% per year.

MATERIALS AND METHODS
• Patients: 442
  Male: 282  Female: 160
• Average Age at op: 52.8
  Range: 16.76 – 84.45 yr
<65yr: 91.1%
• Hips: 518
• Surgeons: 18
• Countries: 16
• Period: 1997 – 2008

Volunteering patients were entered in the study by their surgeon. Information included operative and clinical details. Pre/post-operative patient based questionnaire, Oswestry Hip Score (OSSHIP), were collected annually together with standard satisfaction ratings and questions concerning any subsequent surgery performed or other complications on the same hip.

Pre-operative diagnosis:
Primary Osteoarthritis: 70%
CDH/Dysplasia: 4%
AVN: 5%
Rheumatoid Arthritis: 2%

SURVIVAL ANALYSIS
Kaplan Meier method was used to evaluate survival of the implant with regards to revision where either stem or cup was removed for any reason. (See Fig 1)

Life Table analysis indicates a survivorship of 95.39% at 10 years (95% CI : 93.09 – 96.95)

RESULTS

Kaplan-Meier Survival Function

BHR Study resurfacing hip prosthesis

Cumulative Survival

Time in years

Failure Rate (22 Cases)

Satisfaction

Patients were asked to state how pleased they had been with their BHR at 10 year point. 348 patients reported to be:

Extremely pleased: 88.32%
Pleased: 10.33%
No different: 0.54%
Worse: 0.61%

COMPLICATIONS

518 BHRs
1 – 10 Years
Outcome known (n=428)
Outcome awaited (n=90)
Alive (n=402)  Died (n=26)

Mean OsHip Score (Self-assessed modified Harris)

Follow-up points

The mean score pre-operatively was 56.5 which rose to 92.5 at 1 year and remained relatively constant through to 10 year: 89.9 (Fig 2)

CASE:
38 year old male with osteo-arthritis treated with right BHR in July 1997. Has been able to return to sporting activities including – running, swimming, cricket and skiing

CONCLUSION

• Survival of the BHR at 10 year was 95.4%.
• Clinical assessment of hip scores were high and consistent.
• Patients were pleased to extremely satisfied in 96.6% of cases.

Taking all evidence together the BHR achieves excellent results at 10 years.