

Comparative study of functional outcome of cemented and uncemented bipolar hemiarthroplasty in femoral neck fractures.

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Abstract

Introduction: Whether a specific type of hemiarthroplasty using an uncemented implant could yield the same clinical results as a hemiarthroplasty using a cemented implant for treatment of displaced femoral neck fractures is unclear as there are certain advantages and disadvantages associated with each of these implants. The purpose of this prospective study is to compare a hemiarthroplasty using a cemented implant with a hemiarthroplasty using an uncemented implant.

Methods: The study was conducted in the department of Orthopaedics at SMS Medical College Research Institute between June 2019 to June 2020. The present comparative study includes 110 cases of intracapsular fracture neck of femur in elderly aged more than 60 years, who were divided into 2 groups with 55 patients in each group, the groups were being assigned randomly. One group of the patients was treated by

hemiarthroplasty using uncemented prosthesis whereas the other group was treated with hemiarthroplasty using cemented prosthesis.

Results: The average age of the patients in our series is 72.5 years. There were 74 female patients and 36 male patients. Out of 110 cases 55 cases (50%) had injury on left side and 55 cases (50%) on the right. Surgical time (70.0 minutes versus 113.5 minutes) and blood loss (300 ml versus 200 ml) was greater for the cemented cohort than the uncemented. In the uncemented group we had 3 case (5%) of periprosthetic fracture during the operative procedure intraoperatively; for which we delayed the weight bearing for 6weeks. 6 case (10%) of superficial infection which responded to antibiotics with regular dressing & 6 case of bed sore which was superficial grade 1 were noted. In the cemented group we had 1 case (2%) of dislocation for which closed reduction was done under general anaesthesia. 3 cases of bed sore (grade 1)

(5%) and 3 case of superficial infection (5%) which responded to antibiotics and dressing were seen. In the uncemented group 11 patients (20%) had excellent results; 39 patients (70%) had good results and 5 patients (10%) had fair results with the mean HHS score of 85; whereas in the cemented group 9 patients(16.66%) had excellent results; 29 patients(53.7%)had good results; 14 patients (25.92%) had fair results and 2 patient (3.7%) had poor functional result, with the mean HHS score of 81. There was 1 death (2%) in the group as a result lost to follow up after 6 months of procedure.

Conclusion: Surgical time was found to be comparably less in uncemented hemiarthroplasty also, peri-operative blood loss was found to be comparably more in cemented hemiarthroplasty. The incidence of pain, limp were noted to be less in cemented hemiarthroplasty than in uncemented hemiarthroplasty but the use of walking aids was less reported in cemented hemiarthroplasty. Both cemented and uncemented hemiarthroplasties are good treatment options for treatment of displaced femoral neck fractures in elderly. Greater care must be exercised while conducting cemented hemiarthroplasty in elderly patients with associated co-morbidities. In osteoporotic bone and in large medullary canal cemented hemiarthroplasty is good option but with a larger sample size and a longer duration of follow up for a more specific recommendation.

Keywords: Cemented, Uncemented, Hemiarthroplasty, Fracture , Neck, Bipolar.

Introduction

Hip Fractures are frequently encountered in the elderly population. With the current annual incidence of 0.2 to 3.8 per 1,000 per year, which is increasing every year due to increasing life expectancy, hip fractures are slowly becoming a public health problem. Hemiarthroplasty is the most commonly used treatment for displaced femoral

neck fractures in the elderly. There is limited evidence in the literature of improved functional outcome with cemented implants v/s uncemented hemiarthroplasty. Management of displaced intracapsular hip fracture in elderly remains controversial.

Cementation of the prosthesis achieves good initial fix in an osteoporotic bone, however arthroplasty using a cemented implant may be associated with increased mortality compared with an arthroplasty using an uncemented implant, as it has the risk of bone marrow and fat embolization with resulting intraoperative hypotension and increased incidence of deep vein thrombosis. The mechanisms involved are not fully understood but involve cardiorespiratory disturbances caused by venous and pulmonary embolization of bone marrow contents and methyl methacrylate particles.

An uncemented implant may be associated with design-specific complications such as stress shielding, thigh pain, loosening of implant and a higher risk of periprosthetic fracture. This may be the result of the inferior method of fixation or the design of the prosthesis. Although hemiarthroplasties are an important treatment for femoral neck fractures, the literature does not provide a clear approach for selecting the implant fixation method.

Selecting the implant fixation depends on osteoporotic bone, width of the medullary canal, loosening of prosthesis.

Whether a specific type of hemiarthroplasty using an uncemented implant could yield the same clinical results as a hemiarthroplasty using a cemented implant for treatment of displaced femoral neck fractures is unclear.

The purpose of this prospective study is to compare a hemiarthroplasty using a cemented implant with a hemiarthroplasty using an uncemented implant. Considering good number of fracture neck femur

encountered in our hospital, I intend to do this clinical study and results will be evaluated in comparison with Harris hip score.

Methodology

The present comparative study includes 110 cases of intracapsular fracture neck of femur in elderly aged more than 60 years, who were divided into 2 groups with 55 patients in each group, the groups were being assigned randomly. One group of the patients was treated by hemiarthroplasty using uncemented prosthesis whereas the other group was treated with hemiarthroplasty using cemented prosthesis. The study is conducted in the department of Orthopaedics at SMS Medical College Research Institute between June 2019 to June 2020. The Ethical clearance was obtained from ethical committee.

Collection of data of patients presenting with fracture neck of femur after informed consent are as follows : History by verbal communication, clinical examination both local and systemic, radiological examination using x ray and other imaging modalities, pre-operative Harris hip score as well as on post op follow-up, complications: per-operative, immediate, late, clinical follow-up at 2 weeks, 6 Weeks, 3 Months, 6 Months intervals regarding pain, signs of sepsis and assessment with reference to symptom score and Harris hip score, radiological follow up at 6months, 12months intervals in accordance with symptoms if needed, wound was inspected on 2nd, 5th and 8th post operative day and suture removal on done on 15th post operative day.

Inclusion Criteria

1. Patients with age group >60 years of either sex.
2. Patients radiological evidence of intra capsular fracture neck of femur.
3. Patients willing and motivated for surgery and lifestyle changes required postoperatively.

Exclusion Criteria

1. Patients with age group <60 yrs of either sex.
2. Patients with radiological evidence of extra capsular fracture neck of femur.
3. Preexisting sepsis.
4. Patient bedridden before injury for some other cause.

Patients were admitted to the ward. In depth, clinical assessment was carried out in each case.

In all patients preoperatively Buck's traction with appropriate weight was applied, to the fractured lower limb, with the aim of relieving pain preventing shortening and to reduce unnecessary movements of the injured limb. Oral or parental NSAIDs were given to relieve the pain. Anteroposterior radiographs of the affected hip joint of pelvis with bone hips were taken for all the patients, keeping the fractured limb in 15° internal rotation to bring the neck parallel to X-ray film. Routine blood investigations, blood grouping and typing, urine routine, RBS, serum urea, creatinine, HbsAg, HIV, chest x-ray, ECG, Covid-19 test were done in all cases. Necessary and adequate treatment was given for those associated with medical problems such as anaemia, diabetes, hypertension, IHD, COPD, asthma, etc were evaluated and treated before taking them to surgery. Patients as well as the attenders were explained about the surgery and its risk factors and written consent for the surgery was taken for all patients. Intravenous antibiotics and tetanus immunization were given an hour before the surgery. The limb was prepared from nipple to knee including perineum and back.

Surgical Procedure

All surgeries were performed on an elective basis using standard aseptic precautions surgery was performed under spinal or general anaesthesia. We used a bipolar prosthesis; the bipolar prosthesis is an intermediate of unipolar hemiarthroplasty and total hip arthroplasty.



Figure 1: Instrumentation Used

The bipolar prosthesis (Talwalkar type) has got a stem length of 157mm, thickness is 8mm and the material used for the stem is stainless steel AISI-316. The stem has got fenestrations, which are optional. It has got a vertical shoulder which fits snugly on the calcar femoral, has a long neck measuring 35mm, the neck shaft angle is 125° and the diameter of the neck is 19mm, the size of the femoral head is 26mm, the head articulates with the inner surface of the acetabular cup made up of high-density polyethylene and the outer surface is made up of stainless steel AISI-316 the size of the acetabular cup varies from 39-51mm. The implant was designed to permit major motion at the inner bearing, which is geometrically perfect, so that complementary motion follows at the outer bearing triggered by even minimal irregularities of the articular cartilage. Articular cartilage then acts as a brake on the outer bearing action while inner bearing continues uninterrupted. For all our patients posterior Moore's Approach (Southern exposure) or posterolateral Kocher Langenback approach was used. In our study group undergoing cemented hemiarthroplasty, the stem was cemented in place using 1st and 2nd generation cementing techniques. Checking of the amount of blood loss in the surgery was done by Swab weighing method and estimating the volume of blood loss in the suction container. However, it does not include loss on to drapes. The wound was closed in layers over a sanction drain, which was removed at the first change of dressing after 48 hours.



Figure 2: Insertion Of Bone Cement into The Femoral Canal Using Cement Gun



Figure 3: Broaching of Proximal Femur



Figure 4: Insertion of Bipolar Prosthesis

Post-Operative Management

Every eight hourly blood pressure, pulse rate, temperature, and respiratory rate was monitored for the first 24 hours. Intramuscular analgesics were given as per

patient's compliance; intravenous antibiotics were continued for 3 days followed by oral antibiotic for another 2 days. Both the lower limbs were kept in abducted position, with a pillow in between both the legs till mobilization was done. Drain removal was done after 48 hours. Check radiograph was taken after 6 hours. Patients were made to sit up on the second day, encouraged to perform static and dynamic quadriceps exercise, standup with support (walker) on the 14th or 15th day, and were allowed to full weight bear and walk with the help of a walker depending on his/her pain tolerance and were encouraged to walk thereafter. Sitting cross-legged and squatting were not allowed. Suture removal was done on the 10th to 15th postoperative day. The patients were assessed for any shortening or deformities if any and discharged from the hospital. Patients were followed up at an interval of 6 weeks, 6 months, and 12 months and functional outcome was analysed by modified Harris hip scoring system. At each follow up radiograph of the hip was taken for radiological analysis. At the time of discharge the patients were asked to come for follow up after 2 weeks, 6 weeks, and for further follow up at 6 months and 12 months. Some patients were reminded by phone call. The patients who turned for follow up or whose details could be collected were finally taken up for the assessment of functional results. At follow up, detailed clinical examination was done systematically. Patients were evaluated according to Harris hip scoring system for pain, limp, the use of support, walking distance, ability to climb stairs, ability to put on shoes and socks (in our study for some patients ability to cut toenail was enquired) sitting on chair, ability to enter public transportation, deformities, leg length discrepancy and movements. All the details were recorded in the follow up chart. The radiograph of the operated hip was taken at

regular intervals, at each follow-up. Total functional outcome was graded as following depending on the total Harris Poor: Harris hip score less than 70 Fair: Harris hip score between 71-80 Good: Harris hip score between 81-90 Excellent: Harris hip score between 91-10.

Observations & Results

Between June 2019 and June 2020, 110 elderly patients with displaced femoral neck fractures were treated surgically with hemiarthroplasty SMS Medical College and Hospital. Of the 110 patients, 55 patients had cemented prosthetic hemi-replacement and the other 55 had uncemented prosthetic hemi replacement. Patients were randomly selected into either group; the following observations were made from the data collected.



Figure 5: Pre-Op X Ray



Figure 6: Immediate Post-Op X Ray



Figure 7: Post-Op X Ray After 12 Months



Figure 8: 12 Month Follow-Up Standing



Figure 9: 12 Month Follow -Up Hip Flexion with Knee Extension



Figure 10: 12 Month Follow-Up Hip Abduction



Figure 11: 12 Month Follow-Up Hip Adduction



Figure 12: 12 Month Follow -Up Hip External Rotation



Figure 14: 12 Month Follow -Up Hip Internal Rotation



Figure 13: 12 Month Follow-Up Sitting

The average age of the patients in our series is 70.03 years, with most patients between 60- 85 years. Maximum age was 84years and minimum age of 60 years, with mean age of 67.54years in males and 71.2years in females. Mean age: 72.50 years (Mean age Male 67.54years / Mean age Female 71.2years). In our series there were 74 female patients and 36 male patients. This shows preponderance of females over male patients. No. of males: 22 Uncemented +14 Cemented = 36 (32.5%). No. of females: 33 Uncemented +41 Cemented = 74 (67.5%)

PROSTHESIS	Age Distribution Results			Total
		65-74y	75-84y	
Uncemented	Frequency	41	14	55
	Percentage	75%	25%	100%
Cemented	Frequency	44	11	55
	Percentage	80%	20%	100%

Table 1

Prosthesis	Sex Distribution Results			
		Male	Female	Total
Uncemented	Frequency	22	33	55
	Percentage	40%	60%	100
Cemented	Frequency	14	41	55
	Percentage	25%	75%	100

Table 2

In our study both right and left side were equally involved. Out of 110 cases 55 cases (50%) were on the left side and 55 cases (50%) are on the right. Uncemented: R- 30/ L-25= 55 Cemented: R- 25/ L-30= 55 Majority (97.5%) of the patients had minimal trauma most of them slipped and fell down on flat ground or in bathroom and were not able to walk or stand. Only one patient was involved in road traffic accident. Fall: 97.5% , Road traffic accident: 2.5%. Associated disorders like Diabetes Mellitus, Hypertension, Chronic Obstructive Pulmonary Disease, Cerebrovascular Accident, Ischaemic Heart Disease, Anaemia, were present in about 81 cases (57.5%). These patients were evaluated and treated by physician in the early period of hospitalization. The patients were taken up for surgery only after they became medically fit for the surgical procedure. Hypertension (HT): 42 (35%) / Diabetes Mellitus (DM): 22 (20%) / Anaemia: 34 (30%) / Chronic Obstructive Pulmonary Disease (COPD): 12 (15%). The complications were distributed in both groups. In the uncemented group we had three case (5%) of periprosthetic fracture intraoperatively. 5case (10%) of superficial infection which responded to antibiotics with regular dressing & 6 case of bed sore which was superficial grade 1 were noted. In the cemented group we had one case (2%) of dislocation for which closed reduction was done under general anaesthesia. There was one death (2%) in the group as a result lost to follow up after 6month of the procedure. In the uncemented group about 41 patients (75%) got operated within 7 days of

admission; 14 patients (25%) got operated between 7-14 days of admission; whereas in the cemented group 33 patients (60%) got operated within 7 days of admission; 22 patients (40%) got operated between 7-14 days of admission. In neither of the groups did the surgery got delayed more than 14 days from admission. In the uncemented group the mean duration of surgery was 70 minutes with a mean amount of blood loss of 200 millilitres, whereas in the cemented group the mean duration of surgery was 113.5 minutes and mean amount of blood loss being 300 millilitres. Surgical time (113.5minutes versus 70.0minutes) and blood loss (300ml versus 200ml) was greater for the cemented cohort than the uncemented. The difference between the groups was significant (P= 0.0001). As per the Harris hip scoring system the pain component was measured, and accordingly in the uncemented group 9 patients (16.36%) had no pain; 46 patients (83.64%) had slight pain. Where as in the cemented group 14 patients (25.45%) had no pain; 38 patients (69.09%) had slight pain and 3 patient (5.45%) had mild pain. In the uncemented group 8 patients (14.55%) had no limp; 22 patients (40%) had slight limp; and 25 patients (44.9%) had moderate limp whereas in the cemented group 12 patients (21.82%) had no limp; 23 patients (41.81%) had slight limp and 20 patients (36.36%) had moderate limp. In the uncemented group 9 patients (16.36%) used to walk without support; 36 patients (65%) used cane for walking long distance and 8 patients (15%) used cane most of the time and 2 patients(3.63%) used one crutch support whereas in the cemented group 15 patients (27.27%) used to walk without support; 31 patients (56.36%) used cane for walking long distance; 6 patients (10.53%) used cane most of time and 3 patients (5.45%) used 1 crutch most of the time. In the uncemented group 20 patients (36.36%) climbed the stairs without support; 35 patients

(63.36%) climbed the stairs with support of railing; whereas in the cemented group 30 patients (54.54%) climbed the stairs without support; 25 patients (45.45%) climbed the stairs with support of railing. As most of our patients are not used to wearing shoe or socks, the questionnaire was modified as ability to cut toe nails and wash the foot with the own hands. In the uncemented group 22 patients (40%) were able to cut toe nails and wash their foot with their own hands by ease; 33 patients (60%) were able to cut toe nails and wash their foot with their own hands with difficulty; whereas in the cemented group 17 patients (31.58%) were able to cut toe nails and wash their foot with their own hands by ease; 38 patients (68.42%) were able to cut toe nails and wash their foot with their own hands with difficulty. In the uncemented group 44 patients (80%) were able to walk for unlimited distance; 11 patients (20%) walked for 6 blocks; whereas in the cemented group 37 patients (68.42%) were able to walk for unlimited distance; 12 patients (21.10%) walked for 6 blocks; 3 patient (5.26%) could walk for 2-3 blocks and 3 patient (5.26%) remained indoor. In the uncemented group 39 patients (70%) were able to sit comfortably in ordinary chair for one hour; 16 patients (30%) were able to sit on high chair for 30minutes; whereas in the cemented group 32 patients (57.90%) were able to sit comfortably in ordinary chair for one hour; 23 patients (42.10%) were able to sit on high chair for 30minutes. In the uncemented group 55 patients (100%) were able to enter public transport, whereas in the cemented group 52 patients (94.74%) were able to enter public transport; 3 patients (5.26%) was not able to entre public transport.

Criteria	Result	
1. Less than 30° FFD	Yes	No
2. <10° fixed adduction	Yes	No
3. <10° fixed internal rotation	Yes	No
4. Limb length discrepancy <3.2 cm	Yes	No

Table 3

Criteria	Uncemented		Cemented	
	Frequency	Percentage	Frequency	Percentage
If All Four Yes(4)	55	100%	55	100%
Less Than Four Yes(0)	0	0	0	0
Total	55	100%	55	100%

Table 4

In neither of the groups were there any noticeable deformity like FFD of > 30, fixed adduction deformity >10, fixed internal rotation deformity of >10 or leg length discrepancy of > 3.2cm.

In the uncemented group 6 patients (10%) had range of movement between 211° -300°; 44 patients (80%) had range of movement between 161° -210° and 5 patients (10%) had range of movement between 101° -160°; whereas in the cemented group 9 patients (15.79%) had range of movement between 211° -300° ; 29 patients (52.63%) had range of movement between 161° -210° and 17 patients (31.58%) had range of movement between 101° -160°.

In the uncemented group 11 patients (20%) had excellent results; 39 patients (70%) had good results and 5 patients (10%) had fair results; whereas in the cemented group 9 patients (16.66%) had excellent results; 29 patients (53.7%) had good results; 14 patients (25.92%) had fair results and 2 patients (3.7%) had poor functional result.

Discussion

Femoral neck fractures are common injuries among elderly people. The most common treatment for a displaced femoral neck fracture in the elderly is hemiarthroplasty. The hemiarthroplasty is either cemented into the femoral canal or uncemented with

press-fit technique. We undertook the present study to evaluate the immediate results of comparative study of a uncemented hemiarthroplasty with cemented hemiarthroplasty in geriatric population.

Age Incidence

The average age incidence in our study was 72.50 years with a range of 60 to 85 years. Our study was comparable to other studies as mentioned in the table.

Clinical Studies	Mean Age In Years
WenderFigved MD, et.al,	70y
R.J.K. Khan et.al,	83y
JaimoAhn MD, PhD, Li-Xing Man MD et.al,	78y
Our study	72.50y

Table 5

Sex Incidence

In our series the intracapsular fracture of femoral neck were found to be more common in females 74 of 110 patients (67.5%). The elderly females are more prone to fracture neck of femur due to osteoporosis. Female preponderance has been reported in several series Moore 1957: 62.5%, Campbell (1960): 80.9%; Cone (1963): 73.6%; Anderson & Neilson (1972):85%.

NATURE OF INJURY

Majority (97.5%) of the patients had minimal trauma most of them slipped and fell down on flat ground or in bathroom and were not able to walk or stand. This is in accordance with majority of the series reported – Gyepes (1962), Solomon (1968), Evarts (1973), Fielding (1974), Ingalhalikar (1987), Seth (1987), Stevens et al. (1962), Scott and Gray(1980).

Associated Medical Condition

The common problems in our series were gross anaemia, hypertension, diabetes mellitus, chronic bronchitis and bronchial Hypertension (35%) and Anaemia (30%) were the major problems in our study. Ischaemic heart diseases are common in western series, which are not found so common in our series. Hypertension, diabetes mellitus

were commonly detected after the patient got admitted with fracture neck of femur.

No	Associated Medical Problem	Hinchey & Day (1964)	D'Acry&Devas (1976)	Saraf & Saxena (1978)	OUR STUDY
1.	Cardiovascular		14.6%	28%	
	Hypertension	26.5%	5.5%		35%
	Ischaemic heart disease	13.9%			
2.	Respiratory disease		4.4%	15.0%	15%
3.	Diabetes mellitus	13.26%	4.4%	10.8%	20%
4.	Anaemia	24.5%	15.6%	12.4%	30%
5.	Nervous system	17.7%	18.3%		
6.	Blindness etc.,	7.8%	9.4%	1.3%	

Table 6

Functional Scoring

Pain

In our study there was slight difference in the pain scoring (p value=0.045) between the cemented and uncemented groups, in which cemented group experience less pain in comparison to cemented group after 12 months which matches with the other similar studies like, Jaimo Ahn MD, PhD, Li-Xing Man MD et al. who noted persistence of pain in uncemented group. Studies like M. I. Parker MD et al. concluded that degree of residual pain was less in those treated with a cemented prosthesis (p < 0.0001) three months after surgery.

R.J.K. Khan et al. by Prospective assessment (Table 3) revealed a highly statistically significant greater deterioration in pain (P=0.003), walking ability (P=0.002), use of walking aids (P=0.004) and activities of daily living (P=0.009) in the uncemented group. The weakness of both these above papers is that the prostheses studied are Austin-Moore and Thompson.

Limp: Ability To Walk And Use of Walking aids

The results in our study show slight statistical difference in the evaluation of limp (P= 0.043), ability to stair climb (P = 0.37) and use of walking aids (P = 0.047) which matches with other similar studies like Jaimo Ahn MD,

PhD, Li-Xing Man MD et al. ; Wender Figved MD, et al. ; Hansen et al.

Total Functional Result At 12 Months

In the uncemented group 11 patients (20%) had excellent results; 39 patients (70%) had good results and 5 patients (10%) had fair results with the mean Harris Hip Score of 85; whereas in the cemented group 9 patients (16.66%) had excellent results; 29 patients (53.7%) had good results; 14 patients (25.92%) had fair results and 2 patient (3.7%) had poor functional result, with the mean Harris Hip Score of 81. There was no statistically significant difference in the functional outcome ($P = 0.589$) between the two groups in our study. 1 year Harris Hip Score results were equivalent and there were no differences in ability to walk, use of analgesics, or place of living in both the groups Wender Figved MD et al. Postoperative mortality rates, overall complications, and pain were similar between the two cohorts Jaimo Ahn MD, PhD, Li-Xing Man MD et al. There was no significant difference between the 2 groups of patients regarding most variables S. Santini, et al., Hansen et al. compared complications, reoperations and mortality and they did not find any statistically significant difference between the groups. Deangelis JP et al. concluded in the treatment of non pathologic displaced femoral neck fractures, the use of cemented and uncemented femoral components is associated with similar functional outcome at 1 year. At 30-day, 60-day, and 1-year follow-ups, no clinically or statistically significant differences were found in mortality, disposition, need for assistance with ambulation.

M. I. Parker, MD et al. in their study noted no statistically significant difference between the cemented and the uncemented groups with regard to mortality, implant- related complications, re-operations or post-operative medical complications. The use of a cemented

Thompson hemiarthroplasty resulted in less pain and less deterioration in mobility than an uncemented Austin-Moore prosthesis with no increase in complications. They also stated in the discussion the following: “It is possible that a modern uncemented prosthesis, perhaps with hydroxyapatite coating, may produce superior outcomes to the uncemented Austin-Moore prosthesis, this remains to be proved in randomized controlled trial”.

Conclusion

Fracture neck of femur is a geriatric disease more so common in elderly females. Surgical time is comparably less in uncemented hemiarthroplasty. Per operative Blood loss is comparably more in cemented hemiarthroplasty. Timing of surgery does not have any significant effect on final outcome. There was statistically slight difference in pain , limp which was less in cemented hemiarthroplasty than in uncemented hemiarthroplasty. There was statistically slight difference in use of walking aids which was less used in cemented hemiarthroplasty. There is no statistically significant difference in the functional outcome between cemented and uncemented hemiarthroplasty. With a larger sample size and a longer duration of follow up the recommendation would have been more specific. Both cemented and uncemented hemiarthroplasties are good treatment options for treatment of displaced femoral neck fractures in elderly. But in osteoporotic bone and in large medullary canal cemented hemiarthroplasty is good option. Greater care must be exercised while conducting cemented hemiarthroplasty in elderly patients with associated comorbidities. There was 1 case of death in our study in the cemented group after 6 months of the operative procedure which was unrelated to the procedure.

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