

Are The Outcomes of Total Hip Arthroplasty For Hip Fractures Comparable with Matched Elective Cohort?

A Prospective Study

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INTRODUCTION

- ❖ At present it is not yet entirely clear whether the total hip arthroplasty (THA) undertaken for trauma setting is comparable with THA undertaken for elective setting.
- ❖ Our previous matched retrospective study highlighted a higher medical, surgical complications and death rate in trauma THA cohort^[1].
- ❖ We were unable to provide any functional outcomes due to nature of retrospective study.

AIM

- ❖ To prospectively compare the functional outcomes and complications of THA for hip fractures with a best-matched elective cohort.

METHODS

- ❖ Caldicott approval.
- ❖ Prospectively reviewed patients underwent THA for hip fractures from 2017 to 2019.
- ❖ The elective cohort was matched for month of operation, age, gender, implants, side of operation and surgeon's grade.
- ❖ The demographic details, surgical approach, modified Harris Hip Score (mHHS), mobility prior to injury, cognition, medical comorbidities, complications, Katz score, Functional Comorbidity Index (FCI), Charlson Age Comorbidity Index (CACI), Nottingham Hip Fracture Score and discharge details were collected and compared.
- ❖ Mann-Whitney test to assess the statistical significance between both cohorts.

RESULTS

- ❖ A total of 41 cases in each cohort were compared.
- ❖ The average age for the trauma cohort was 72 years old whereas the average age for elective cohort was 71 years old ($p = 0.603$).
- ❖ The trauma cohort had statistically significant lower BMI and longer hospital stay ($p = 0.034$; <0.001).
- ❖ Our trauma cohort had high Katz Score (6 ± 1) and significantly lower FCI than elective cohort ($p < 0.001$) preoperatively.
- ❖ In each cohort, 23 cases were operated by trainees supervised by orthopedic consultants.
- ❖ The mHHS (total) was significantly lower preoperatively in elective cohort (41.4 vs 60.3, $p < 0.001$) and achieved significantly higher score than trauma cohort one-year postoperatively (88.2 vs 82.6, $p = 0.029$) (Table 1).
- ❖ The trauma cohort has similar mHHS (function) pre- and postoperatively, and no significant difference was witnessed between both cohort postoperatively (35.1 vs 37.6, $p = 0.142$).
- ❖ The mHHS (pain) was significantly higher in trauma cohort preoperatively (19.8 vs 12.7, $p = 0.034$), but the elective cohort achieved significantly higher mHHS (pain) than trauma cohort one-year postoperatively (42.7 vs 40.7, $p = 0.027$).
- ❖ Both cohorts had similar complication rates (Figure 1) and there were no mortalities recorded at one-year after the procedure in both cohorts.

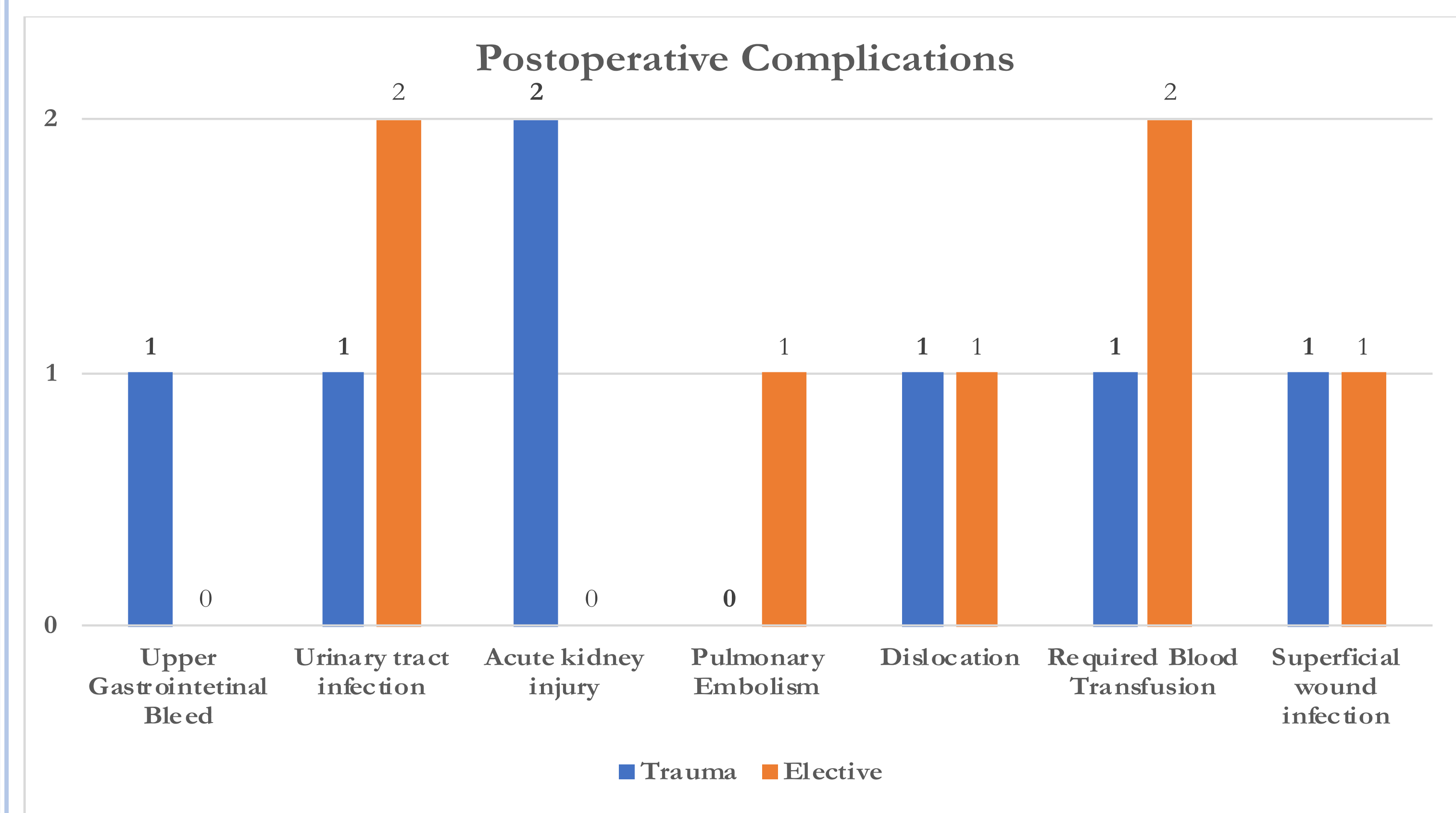
TABLE

Table 1: The mHHS.

mHHS		Trauma		Elective		p-value
		n	Mean \pm STDEV	n	Mean \pm STDEV	
mHHS (Total)	Preoperative	41	60.3 \pm 22.2	41	41.4 \pm 14.3	< 0.001
	One-year postoperative	36	82.6 \pm 12.7	41	88.2 \pm 10.9	0.029
mHHS (Function)	Preoperative	41	35.1 \pm 8.2	41	24.9 \pm 8.6	< 0.001
	One-year postoperative	36	35.1 \pm 7.4	41	37.6 \pm 7.7	0.142
mHHS (Pain)	Preoperative	41	19.8 \pm 15.3	41	12.7 \pm 6.3	0.034
	One-year postoperative	36	40.1 \pm 7.7	41	42.7 \pm 4.4	0.027

FIGURE

Figure 1: The postoperative complications.



DISCUSSION

- ❖ First matched prospective study on hip fracture patients received THA, with one year follow up results and the involvement of preoperative and postoperative functional outcomes.
- ❖ The mHHS is a measure of dysfunction, therefore, the higher the score, the better the outcome for the individual^[2].
- ❖ Our unit is much cautious when selecting hip fractures patients for THA, as reflected by low FCI and complication rates.
- ❖ The trauma cohort was able to return their pre-injured function within a year and had comparable function scores with elective cohort.

CONCLUSION

- ❖ With careful patient selection, hip fracture patients who received THA were able to return to their pre-injured function within a year and had comparable function scores with elective patients, without increased complication rates.

REFERENCES

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