CONCLUSION
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Eighteen cases of fracture of both bones forearm, admitted in OPD or emergency department of M.L.B. Medical College, Jhansi, were included in this study. From these cases, few were selected randomly, treated by both bone square nail fixation, after open reduction and were designated as Group I. Other cases were treated by both bone DCP fixation after open reduction, and were included in Group II.

The following conclusions were drawn from the study:

1. Age and sex of patients: Young (20-40 years) active adults, who more often get involved in outdoor work, were most commonly (66.6%) affected by this fracture.

2. Mode of injury: Road traffic injury was the single most common (44.4%) cause of trauma resulting in the fractures of both bones forearm. Females comprised of only 15% of the total cases.

3. Occupation: Most of the patients (33.3%) were poor farmers or daily wage labourers in our study.

4. Side and site of fracture: Both sides were involved with similar frequency and mid 3rd was the most common part (77.7%) of forearm to be fractured.

5. Type of fracture: Transverse fracture pattern was found to be the most common (63.8%) fracture pattern.
6. *Nature of study*: Most of the cases (77.7%) had simple fracture.

7. *Associated injury*: Most of the patients (72.2%) had no associated injuries. 16.6% cases had fracture of some other long bone as well.

8. *Interval between injury and operation*: Most of the patients were operated with in 0-2 weeks of injury.

9. *Operative intervention done*: Patients were randomly selected and intramedullary nail fixation was done in 72.2% cases and DCP fixation was done in 27.7% cases.

10. *Bone grafting*: Iliac cancellous bone grafts were used at the time of internal fixation when the comminution involved more than 1/3rd of the circumference of the shaft of radius or ulna or when fracture was more than 4 weeks old. According to these indications bone grafting was done in 27.7% cases in our study.

11. *Duration of post operative immobilization*: This was significantly less in case with DCP fixation (average 7 weeks 2 days) as compared to cases treated by square nail fixation (average 12 weeks and 3 days).

12. *Quality of fixation*: Anatomical alignment, compression at fracture site and rigidity of fixation was better with DCP than with square nail fixation.

13. *Radiological follow up*: Fracture callus was minimal with
DCP fixation but abundant with square nail fixation. Although the fracture callus appeared at approximately the same time post operatively but the consolidation and maturation of callus leading to fracture union was more rapid and swift where DCP fixation was done. Average time of fracture union was 16 weeks and 3 days where square nail fixation was used and 14 weeks and 3 days where DCP fixation was used.

14. *Functional results*: The range of rotational movements (supination and pronation) at forearm, achieved after fracture union and a short course of mobilization exercises, was significantly better in cases where DCP fixation was used as compared to cases where square nail fixation was used.

15. *Final evaluation*: Taking the fracture union and rotational movements of forearm and rehabilitation of the patient into consideration, the overall quality of results was better with DCP fixation as compared to square nail fixation.

16. Other important conclusions which can be drawn from this study are:

(a) Results were better in simple fractures than compound fractures.

(b) Results were inferior when there was comminution at fracture site.

(c) Better results were obtained in fractures through mid 3rd, without any comminution, as compared to upper or lower 3rd.
(d) Regardless of type of implant used, the functional results were inferior when duration of post operative immobilization was prolonged.

(e) There were increased chances of posterior interosseous nerve neuropraxia when fracture of upper 3rd of radius was being exposed.

(f) For segmental fractures of radius and, or, ulna, intramedullary nail fixation was a better technique.

(g) There was a very good role of unreamed square nail fixation, as an emergency procedure, in cases of severely compound injuries of forearm, where good splintage was provided by these nails while soft tissue healing occurred.