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## Outcome of mesh envelope bone grafting for traumatic segmental bone defects

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**Background:** Long bone defects treatment is a technically demanding procedure in orthopedic surgery and may require bone graft pieces, which are loosely applied to the bone and few pieces can spill over in the surrounding area, resulting in failure in obtaining beneficial effects. The vicryl mesh envelope around the bone graft may be a solution.

**Objective:** To determine the role mesh regarding bone graft containment and union in long bone defects of >4 cm.

**Methodology:** This experimental study was conducted in Orthopedic Department of Lahore General Hospital, Lahore from 1st January 2012 to 31 December 2014. Total 28 cases were included in the study and randomized into two equal groups. 14 patients were managed with vicryl mesh (group-A) while 14 patients were treated routinely without the use of vicryl mesh envelope (group-B). Data was entered and analyzed by using SPSS version 18.0.

**Result:** The mean age of all the patients was 29.11±6.16 years. The mean age of patients in group A was 29.71±6.56 years and in group B was 28.50±5.92 years. There were 20 (71%) male patients and only 8 (29%) female patients presented with long bone defects. Most of the patients were managed with dynamic compression plating i.e., 20 (71.43%). In group-A, 1 (7.1%) patient developed infection and re-operation was done while in group-B, 6 (42.9%) patients have infection and reoperation was executed to eradicate it. The difference was significant for post-operative infection between both groups (P-value=0.029).

**Conclusion:** This study concluded that there was significant difference between both techniques in graft containment, consolidation and graft failure. Patients managed with vicryl mesh have better outcome than without vicryl mesh.

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