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MANAGEMENT OF COMMINUTED DISTAL FEMUR FRACTURE WITH FIBULAR STRUT GRAFT: A CASE REPORT

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INTRODUCTION	OPERATIVE FINDINGS	DISCUSSION
<p>COMMINUTED DISTAL FEMUR FRACTURES, OFTEN FROM HIGH-ENERGY TRAUMA, ARE CHALLENGING DUE TO COMPROMISED BONE STOCK AND INSTABILITY.</p> <p>ORIF WITH PLATES AND SCREWS IS STANDARD, BUT SEVERE COMMINUTION OR BONE LOSS MAY REQUIRE ADDITIONAL SUPPORT.</p> <p>FIBULAR STRUT GRAFTS, PROVIDING STRUCTURAL INTEGRITY AND AUTOLOGOUS BONE, ARE A VALUABLE ADJUNCT FOR COMPLEX FRACTURES.</p> <p>THIS REPORT HIGHLIGHTS SUCCESSFUL USE OF A FIBULAR STRUT GRAFT WITH ORIF IN MANAGING A COMMINUTED DISTAL FEMUR FRACTURE.</p>	  <p>Fig 2 & 3: Intra Op Photos</p>  <p>Fig 4: Post-Op X ray</p> 	<p>COMMINUTED DISTAL FEMUR FRACTURES ARE CHALLENGING DUE TO RISKS OF NONUNION AND MALUNION, REQUIRING STRATEGIES THAT ENSURE STABILITY AND RESTORE BONE STOCK.</p> <p>FIBULAR STRUT GRAFTS ARE A VALUABLE ADJUNCT WHEN TRADITIONAL FIXATION METHODS ARE INSUFFICIENT.</p> <p>AUTOLOGOUS GRAFTS MINIMIZE IMMUNOLOGICAL RISKS AND SUPPORT BIOLOGICAL HEALING THROUGH CANCELLOUS BONE OSTEOREGENESIS.</p> <p>THE FIBULA'S STRUCTURAL INTEGRITY PROVIDES LOAD-BEARING SUPPORT, ENHANCING STABILITY AND PROMOTING FRACTURE HEALING.</p>
CASE REPORT		
<p>A 42-YEAR-OLD MALE PRESENTED WITH A COMMINUTED DISTAL FEMUR FRACTURE FOLLOWING A MOTOR VEHICLE ACCIDENT.</p> <p>AFTER STABILIZATION, SURGICAL INTERVENTION WAS PERFORMED UNDER GENERAL ANESTHESIA VIA A LATERAL APPROACH.</p> <p>THE FRACTURE WAS REDUCED, AND PROVISIONAL FIXATION WAS ACHIEVED.</p> <p>A FIBULAR STRUT GRAFT WAS HARVESTED FROM THE IPSILATERAL FIBULA, SHAPED TO FIT THE DISTAL FEMUR, AND SECURED USING CORTICAL SCREWS AND KIRSCHNER WIRES.</p> <p>© A LOCKING COMPRESSION PLATE (LCP) WAS APPLIED LATERALLY, ENSURING OPTIMAL FIXATION WITHOUT INTERFERING WITH THE GRAFT.</p> <p>FINAL FLUOROSCOPIC IMAGING CONFIRMED SATISFACTORY ALIGNMENT AND FIXATION.</p>	 	<p>MANAGING COMMINUTED DISTAL FEMUR FRACTURES REQUIRES A MULTIDISCIPLINARY APPROACH AND TAILORED SURGICAL TECHNIQUES.</p> <p>THIS CASE HIGHLIGHTS THE EFFECTIVE USE OF A FIBULAR STRUT GRAFT WITH ORIF FOR STABLE FIXATION AND FRACTURE HEALING.</p> <p>FURTHER STUDIES AND LONG-TERM FOLLOW-UP ARE NEEDED TO VALIDATE THE DURABILITY OF THIS APPROACH.</p>
Results		
		<ul style="list-style-type: none">○ Postoperative care included range of motion exercises and partial weight-bearing ambulation.○ Serial radiographs monitored fracture healing and graft incorporation.○ At one year, the patient showed fracture union and a return to pre-injury functional status.   <p>Fig 5: Images showing 1-month and 6-month Post Op X-rays</p> <p>Fig 6: Post op clinical image showing complete flexion and extension of knee joint.</p>
References		
		<ul style="list-style-type: none">○ Bartlett CS, Weiner LS, Yang EC. Treatment of type II, IIIA, and IIIB open fractures of the distal femur: a retrospective analysis of 242 consecutive cases. <i>J Orthop Trauma</i>. 1998 Nov-Dec;12(8):1-6.○ Henderson CE, Lujan TJ, Kuhl LL, Bottlang M, Fitzpatrick DC, Marsh JL. Healing complications are common after locked plating for distal femur fractures. <i>Clin Orthop Relat Res</i>. 2011 Sep;469(6):1757-65.○ Gwathmey FW Jr, Jones-Quaidoo SM, Kahler D, Hurnwitz S, Cui Q. Distal femoral fractures: current concepts. <i>J Am Acad Orthop Surg</i>. 2010 Jan;18(10):597-607.○ Wolinsky PR, McCarty E. Shatzker classification of distal femoral fractures. <i>Clin Orthop Relat Res</i>. 2014 Jan;472(1):232-7.○ Kregor PJ, Stannard JA, Zlowodzki M, Cole PA. Treatment of distal femur fractures using the less invasive stabilization system: surgical experience and early clinical results in 103 fractures. <i>J Orthop Trauma</i>. 2004 Sep;18(8):509-20.