







Figure 2

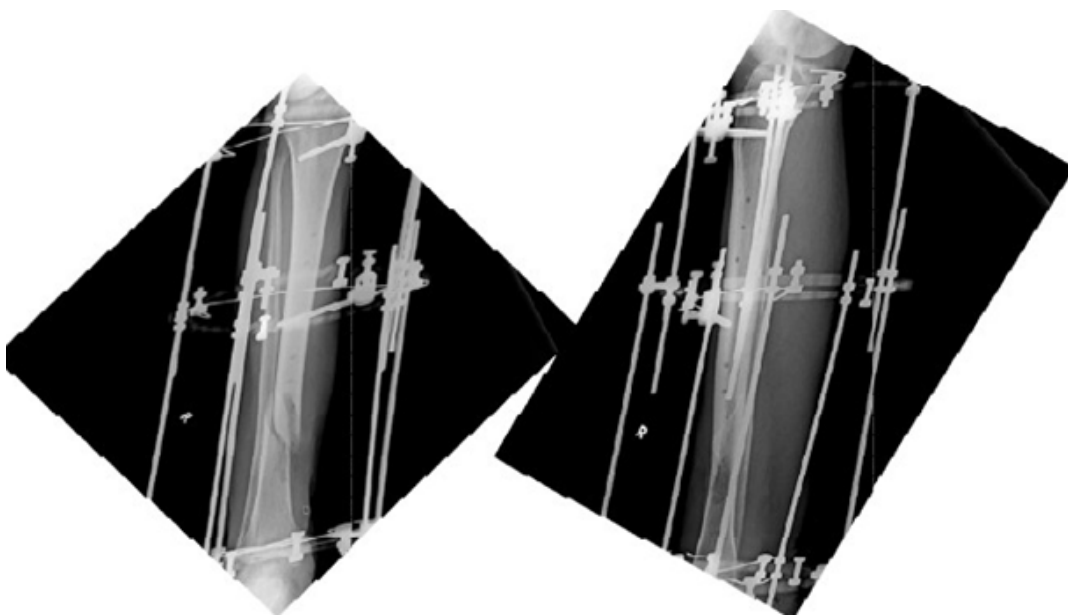


Figure 3

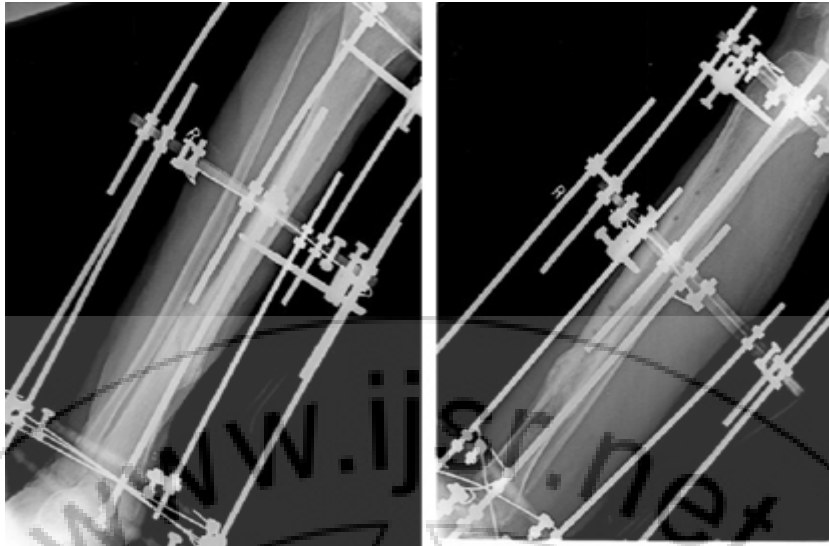


Figure 4



Figure 5:

Annexure 1

**Culture report 17.5.14 :**  
 Shows both gram positive and gram negative bacteria from the wound

MICROBIOLOGY	
Number of Specimens	1
Acquisition Response	1
Culture Method	1
Identification & Sensitivity testing	1
Gram's Stain	1
Culture Findings	1
ARTROGRAM	1
Gram's Stain	1
Culture Findings	1
ARTROGRAM	1

## References

- [1] Bhandari M, Guyatt GH, Swiontkowski MF, Schemitsch E: Treatment of open tibial shaft fractures: a systematic overview and metanalysis. *J Bone Joint Surg Br* 2001; 83B:62-68
- [2] Megas P, Saridis A, Kouzelis A, Kallivokas A, Mylonas S, Tyllianakis M. The treatment of infected nonunion of the tibia following intramedullary nailing by the Ilizarov method. *Injury* 2010; 41: 294-9
- [3] Pearson RL, Perry CR. The Ilizarov technique in the treatment of infected tibial nonunions. *Orthop Rev* 1989; 18: 609-13.
- [4] Morandi M, Zembo MM, Ciotti M. Infected tibial pseudarthrosis. A 2-year follow up on patients treated by the Ilizarov technique. *Orthopedics* 1989; 12: 497-508.
- [5] Saleh M, Kreibich DN, Ribbans WJ. Circular frames in the management of infected tibial non-union; a modification of the Papineau technique. *Injury* 1996; 27: 31-3.
- [6] Schottle PB, Werner CM, Dumont CE. Two-stage reconstruction with free vascularized soft tissue transfer and conventional bone graft for infected nonunions of the tibia: 6 patients followed for 1.5 to 5 years. *Acta Orthop* 2005; 76: 878-83.
- [7] Brooke JS. *Stenotrophomonas maltophilia*: an emerging global opportunistic pathogen. *Clin Microbiol Rev* 2012; 25: 2-41.
- [8] Pearson RL, Perry CR. The Ilizarov technique in the treatment of infected tibial nonunions. *Orthop Rev* 1989; 18: 609-13.
- [9] Morandi M, Zembo MM, Ciotti M. Infected tibial pseudarthrosis. A 2-year follow up on patients treated by the Ilizarov technique. *Orthopedics* 1989; 12: 497-508.
- [10] Karargyris O, Romoudis P, Morassi LG, Zafeiris C, Mavrogenis AF, Polyzois V, et al. Distraction over nail using circular external fixation for septic pseudarthrosis of the tibia. *J Long Term Eff Med Implants* 2012; 22: 137-43.
- [11] Emara KM, Allam MF. Ilizarov external fixation and then nailing in management of infected nonunions of the tibial shaft. *J Trauma* 2008; 65: 685-91.
- [12] Baruah RK. Ilizarov methodology for infected non union of the Tibia: classic circular transfixion wire assembly vs. hybrid assembly. *Indian J Orthop* 2007; 41: 198-203.
- [13] Ring D, Jupiter JB, Gan BS, Israeli R, Yaremchuk MJ. Infected nonunion of the tibia. *Clin Orthop Relat Res* 1999; 369: 302-11.
- [14] Toh CL, Jupiter JB. The infected nonunion of the tibia. *Clin Orthop Relat Res* 1995; 315: 176-91.
- [15] Takahashi M, Kawasaki Y, Matsui Y, Yasui N. Fragmental bone transport in conjunction with acute shortening followed by gradual lengthening for a failed infected nonunion of the tibia. *J Orthop Sci* 2010; 15: 420-4.
- [16] Van de Belt H, Neut D, Schenk W, van Horn JR, van der Mei HC, Busscher HJ. Infection of orthopedic implants and the use of antibiotic-loaded bone cements. A review *Acta Orthop Scand* 2001; 72: 557-71.
- [17] Tsai YH, Tsung-Jen H, Shih HN, Hsu RW. Treatment of infected tibial nonunion with tobramycin-impregnated calcium sulfate: report of two cases. *Chang Gung Med J* 2004; 27: 542-7.
- [18] Gulan G, Jotanovic Z, Jurdana H, Sestan B, Rapan S, Rubinic D, et al. Treatment of infected tibial nonunion with bone defect using central bone grafting technique. *Coll Antropol* 2012; 36: 617-21.
- [19] Sen C, Eralp L, Gunes T, Erdem M, Ozden VE, Kocaoglu M. An alternative method for the treatment of nonunion of the tibia with bone loss. *J Bone Joint Surg Br* 2006; 88: 783-9.
- [20] Amr SM, El-Mofty AO, Amin SN. Anterior versus posterior approach in reconstruction of infected nonunion of the tibia using the vascularized fibular graft: potentialities and limitations. *Microsurgery* 2002; 22: 91-107.
- [21] Doi K, Kawakami F, Hiura Y, Oda T, Sakai K, Kawai S. One-stage treatment of infected bone defects of the tibia with skin loss by free vascularized osteocutaneous grafts. *Microsurgery* 1995; 16: 704-12.