our study, 13 out of 24 patients had enlarged lymph nodes. A 13 year period study of 20 cases from Brazil showed only 1 case of primary tuberculosis[12] whereas Tanrikulu, et al, reported 26 cases of primary tuberculosis of breast in their 27-case series[6] from Turkey. Tuberculosis of breast represents up to 3% of surgically treatable breast conditions in India[21,22].

Lumps in the breast are the most common presenting feature as reported in by other authors[5,6], and in our series also lumps were the presenting feature in eight cases, & a lump accompanied by discharging sinuses in twelve of them. Accompanying axillary lymph node enlargement is a finding recorded in most reports.

Lactation increases susceptibility of breast to tuberculosis. Shinde, *et al*[13] found 7% of the patients to be lactating whereas Khanna, *et al*[17] recorded 30% patients to be lactating. In present study 12 out of 24 cases were lactating. Several studies report that mammary tuberculosis is the disease of young women between 20-40 years of age[23-25], similarly in our study 23 out of 24 were aged between 13 and 30 & the mean age was 22 years.It is relatively uncommon in older women & pre pubertal girls[13].

Clinical examination of the lump often raises the suspicion of malignancy[13] and in present series firm lumps with fixity to overlying skin and underlying tissue suggested a malignant condition. Goksoy, *et al*[14] described three clinical manifestations of breast tuberculosis: Nodular, disseminated, and sclerosing. The nodular variant is often mistaken for a fibroadenoma or carcinoma. The disseminated variety commonly leads to caseation and sinus formation. Sclerosing tuberculosis afflicts older women and is slow growing with the absence of suppuration.

Presence of a discharging sinus over a breast lump and presence of granuloma on cytology may occur in fungal lesions like Actinomycosis. A tuberculous etiology was suggested by caseation necrosis in the background of epithelioid granuloma on cytology, ruling out granulomatous mastitis, plasma cell mastitis or fungal lesion[26], and was confirmed by presence of AFB in smear or culture. Besides clinical examination other diagnostics tools are, FNAC, Mantoux test, biopsy, mammography, ultrasonography & CT scan of breast. Chest X-ray should be done in all cases to exclude pulmonary tuberculosis. In all cases of breast lump FNAC is a must, because it usually clinches the diagnosis. Kakkar *et al* diagnosed 73% of patients and Khanna *et al* diagnosed 100% of their patients on the basis of FNAC[26,17].In our study we could diagnose 20 out of 24 cases through aspiration cytology. Mycobacterial culture is the gold standard in diagnosing tuberculosis but, it takes a lot of time and frequently gives negative results. BACTEC is a better option. Polymerase chain reaction is rapid and specific but has low sensitivity[27].

Mammography or ultrasonographies are not of use in diagnosing tuberculous mastitis[15]. A dense sinus tract connecting an ill defined breast mass to a localised skin thickening on mammography is strongly suggestive of tuberculous breast abscess[16] but was not found in any case in this series.

Demonstration of AFB was possible in 20/24 cases in this series which is in contrast with the findings of other authors[10,17]. BACTEC Culture showed growth of AFB in the remaining 4 cases. Thus the diagnosis of tuberculosis was bacteriologically confirmed in all twenty four cases in this study.

## Conclusion

Tuberculosis of the breast is rare but should be considered in the differential diagnoses of a lump in the breast, particularly in developing countries where prevalence of tuberculosis is high. Though rare, but it is wise to exclude past history of tuberculosis or contact, in a lady presenting with breast lump. Aim is to diagnose and treat the condition well before it comes as an ugly looking multiple discharging sinus or cold abscess. FNAC can strongly suggest the diagnosis but demonstration of AFB should be tried in smear or on culture. Standard anti-tuberculous treatment is curative.

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Observational Study

# Early outcome of resection and endoprosthetic replacement of tumors around knee

**Atanu Mohanty[1], Satyajeet Ray[2], Aditya Prasad Panda[3]**

**Juxtaarticular tumors around knee especially Giant Cell Tumors are common and pose a special problem in their reconstruction and management. Amputation is no longer the sole contribution of orthopaedic surgeon to its management. Improvement in design of endoprostheses and surgical reconstruction techniques together with advances in chemotherapeutic regimens have made limb salvage a viable alternative. The aim of the study was to evaluate the early results of endoprosthetic replacement around knee in terms of functional outcome and complication. In this case series we are here by presenting data of eight patients (five female, three male) with primary tumors around knee who were treated with wide local excision and megaendoprosthetic replacement. Functinal evaluation was done using the MSTS (Musculoskeletal Tumor Society) Scoring system. Complications if any were also analysed. The mean follow up period was 12 months (6-20 months).The final mean functional score was 79%. There were no instances of deep tissue infection, recurrence, aseptic loosening or death. Megaprosthetic reconstruction in limb salvage provides good functional outcome in patients with tumor around knee. The early results from patients have been encouraging.**

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***Key words*** **: Tumors around knee, endoprosthesis, functional outcome.**

The knee is the most frequent site of primary bone tumor[1]. For almost two decades extremity amputation was one of the viable options for patients with bone tumor in the region of knee and hip, but with advances in implant technology, surgical reconstructive technique and adoption of new chemotherapeutic protocols, more onco surgeons are opting for limb salvage procedures.

Success in limb salvage approach depends upon understanding of tumor biology and assessment of tumor aggressiveness. The majority of tumors arising in the knee can be treated now with limb sparing surgery and results in good early and late functional outcomes[1-5]. Reconstruction methods include allograft, prosthetic composites, arthrodesis with intercalary bone graft, rotational plastic procedures and segmental endoprosthetic replacement. All methods excepting endoprosthetic replacements have functional restrictions and can be applied in exceptional cases and in specific centres with bone banking facility.

Endoprosthetic replacement on the other hand provides numerous advantages, including immediate weight bearing, maintainance of joint mobility and early return to activities of daily living[2-4].

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## Materials and Methods

This prospective study was performed between Feb 2012-July 2013. A total of 8 patients (3 males & 5 females) diagnosed with primary malignant and aggressive benign bone tumors of proximal tibia and distal femur were included. Distal femur was involved in 3 patients (2 males & 1 Female), and Proximal tibia in 5 (1 male & 4 Females) (Fig 1) with tumor diagnosed as aggressive variety of GCT with soft tissue involvement in 6 patients and Osteosarcoma in 2 patients. Out of 8 patients, 6 presented with pathological fracture at time of admission. The average age group was 32 years (25-40years).

Inclusion criteria were : (1) Tumor with extensive bony lysis & soft tissue involvement.

(2) Primary malignant bony tumour necessitating wide excision of Joint

(3) Patient giving informed consent for availing an Endoprosthetic replacement.

The most common complaint was pain followed by swelling and subsequent inability to bear weight. The mean duration of symptoms was 10 months (6-12 months). Routine radiology (radiography of the involved extremity,chest radiography, CT Angio, MRI) was performed.The diagnosis was based on Histopathological features noted on core biopsy.

All patients underwent definitive wide local resection of tumor with implantation of modular cemented Endoprosthesis (Fig 2). For distal femur, the technique of