Monday, October 28, 2024

THE YELLOW RIBBON
MANFRINI & PHO INSTITUTE OF SARCOMA RESEARCH

Case Brief

Patient case dossier

Name	[redacted]
Age	14
Gender	Male
Address	[redacted]
Phone Number	[redacted]
Diagnosis	Ewings Sarcoma of Left Pelvis
Date of Diagnosis	Monday, May 20, 2024
Procedure	Wide local excision, reconstruction with custom cone prosthesis, total hip replacement with Evolutis cemented cup and S&N stem, soft tissue reconstruction using mesh and suture anchors
Surgeon/s	Dr. Pramod S Chinder
Date of Surgery	Monday, September 9, 2024 Tuesday,September 10,2024

Brief summary of events

Date	Events	Findings
20-05-2024	Pain and swelling	C/O pain and swelling over left hip and pelvis region since past 2 months
05-07-2024	HCG, Bengaluru	MRI was done and he was found to have T2 hyperintense lesion arising from the superior pubic ramus measuring about 8 * 9 * 6 cm.
05-07-2024	HCG, Bengaluru	Biopsy was done, and reported as ewings sarcoma / PNET with IHC positive for CD99 and NKX2.2
06-08-2024	HCG,Bengaluru	currently 7 cycles post neoadjuvent chemotherapy VAC regimen.
09-09-2024	Surgery at HCG	Wide local excision in the form of type II + type III hemipelvectomy under GA by Dr. Pramod S Chinder
10-09-2024	Surgery at HCG	Reconstruction of left hip with 3D printed customized acetabular cone prosthettic shell with evolutis dual mobility insert and head and stryker stem under GA of Dr.Pramod S Chinder

File Uploads

PET-CT / CT / MRI / X-Ray / 3D / Planning Images

X-Ray Images

MRI Images

IMPRESSION:

- **9.9 x 7.0 x 9.0 cm ill-defined heterogenously enhancing T2 hyperintense lesion in the left pubic bone with extensions as described - *Features are suggestive of Ewing's sarcoma. Suggested histopathological correlation.***
- **Other MRI findings as described above.**

Dr. Revanth RB, MD
Fellow in Onco-Imaging

Dr. Avinash Kesari, DMRD, DNB, FRCR
Consultant Onco-Radiologist

IMPRESSION:

- **Moderate interval regression of mass lesion arising from the left pubic bone with regression of extraosseous soft tissue component and central necrosis - *suggestive of partial response.***
- **Diffuse atrophy with edematous signal intensities within the medial compartment muscles of the left thigh.**
- **Interval development of ill defined focal marrow signal abnormality involving the head of left femur, this could represent post treatment change. Recommended follow-up.**
- **Interval regression of bilateral external iliac and inguinal group of lymph nodes.**
- **Other MRI findings as described above.**

Dr. Revanth RB, MD
Fellow in Onco-Imaging

Dr. Avinash Kesari, DMRD, DNB, FRCR
Consultant Radiologist

IMPRESSION:

- **Further marginal interval regression in size of mass lesion arising from the left pubic bone with marginal interval regression of extraosseous soft tissue component.**
- **Interval resolution of ill defined focal marrow signal abnormality involving the head of left femur.**
- **Relatively stable sized bilateral external iliac and inguinal lymph nodes.**
- **Other MRI findings as described above.**

Dr. Sumana Kedilaya, MD, EDiR
Fellow in Onco-Imaging

Dr. Shivakumar Swamy .S, DMRD, DNB, EDiR
Sr. Consultant Onco-Radiologist

Date	Findings
06-05-2024	IMPRESSION: 9.9 x 7.0 x 9.0 cm ill- defined heterogenously enhancing T2 hyperintense lesion in the left pubic bone with extensions as described - Features are suggestive of Ewing's sarcoma. Suggested histopathological correlation.
05-07-2024	IMPRESSION: Moderate interval regression of mass lesion arising from the left pubic bone with regression of extraosseous soft tissue component and central necrosis - suggestive of partial response.
05-07-2024	IMPRESSION: Diffuse atrophy with edematous signal intensities within the medial compartment muscles of the left thigh.
05-07-2024	IMPRESSION: Interval development of ill defined focal marrow signal abnormality involving the head of left femur, this could represent post treatment change. Recommended follow-up.

Date	Findings
05-07-2024	IMPRESSION: Interval regression of bilateral external iliac and inguinal group of lymph nodes.
26-08-2024	IMPRESSION: Further marginal interval regression in size of mass lesion arising from the left pubic bone with marginal interval regression of extraosseous soft tissue component.
26-08-2024	IMPRESSION: Interval resolution of ill defined focal marrow signal abnormality involving the head of left femur.
26-08-2024	IMPRESSION: Relatively stable sized bilateral external iliac and inguinal lymph nodes.

PET-CT Images

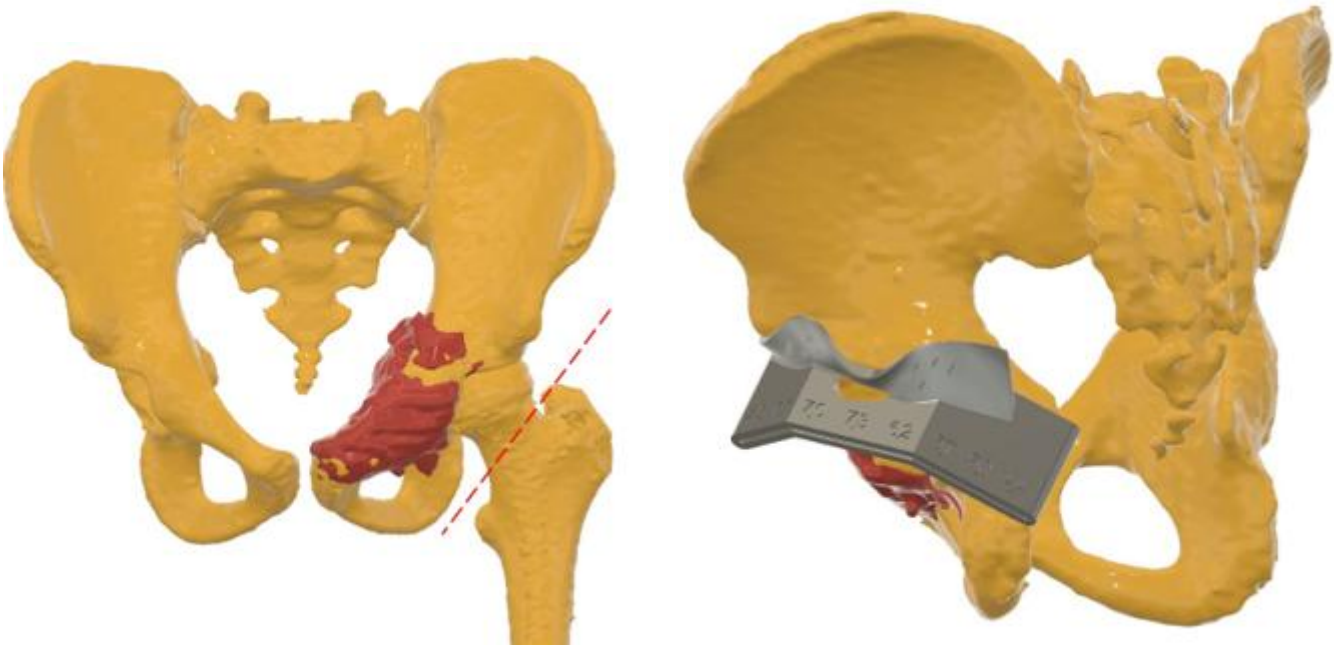
IMPRESSION: PETCT:

- **8.7 x 6.1 x 9.3 cm expansile lytic lesion arising from the left superior pubic ramus extending medially upto the medial margin of pubic bone and laterally extending into the acetabulum eroding the articular cortex with associated significant intrapelvic extraosseous soft tissue infiltrating the obturator internus muscle – of primary neoplastic etiology, likely representing Ewings sarcoma. Recommended histopathological correlation.**
- **No evidence of distant metastases.**
- **Other CT findings as described above.**

Date	Findings
06-05-2024	IMPRESSION: 8.7 x 6.1 x 9.3 cm expansile lytic lesion arising from the left superior pubic ramus extending medially upto the medial margin of pubic bone and laterally extending into the acetabulum eroding the articular cortex with associated significant intrapelvic extraosseous soft tissue infiltrating the obturator internus muscle - of primary neoplastic etiology, likely representing Ewings sarcoma. Recommended histopathological correlation.
06-05-2024	No evidence of distant metastases

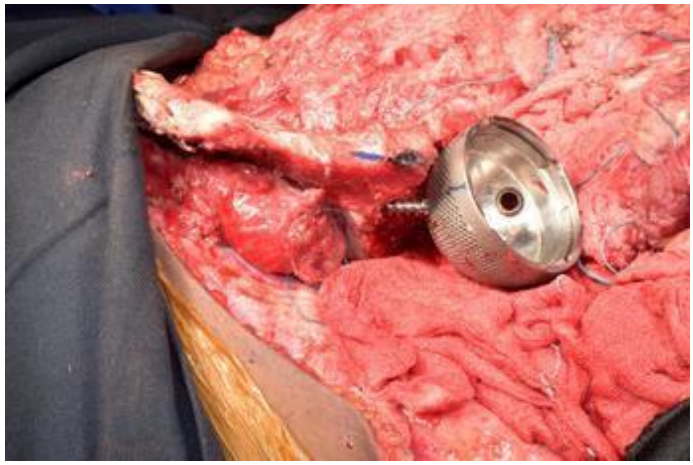
3D Images

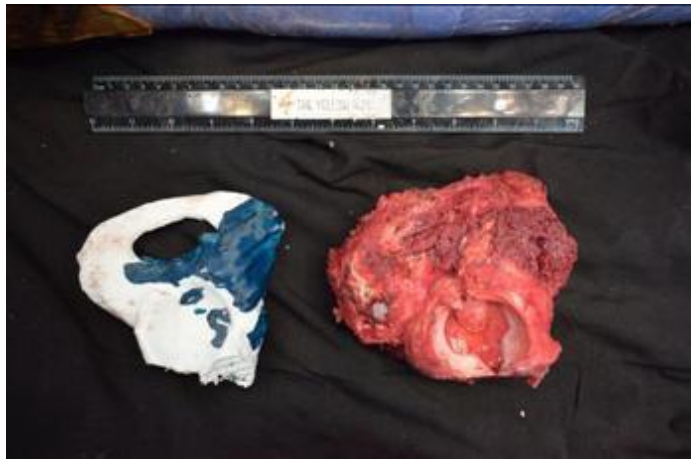

TIP DIAMETER: 8MM
STEM LENGTH: 66MM
BASE DIAMETER: 9.5MM
CAGE ID: 47MM
CAGE OD: 52.5MM



- Evolutis dual mobility cup to be cemented inside the implant
- Acetabular shell: H51 C045 (OD: 43mm; ID: 39mm)
- Poly-liner: H51 M2245 (OD:38.8mm; ID: 22.4mm)
- Femoral head: 22 size (metal)

Operative Images





Post-Op Images (MRI/CT/PETCT/X-ray/Histopathalogy)

description:	**1. Margin outer wall:** Sections show marrow elements, free of tumor. **2. Inner wall:** Sections show only post therapy related changes like necrosis and sheets of macrophages, free of tumor. **3. Ligament margin:** Sections show fibrocollagenous tissue, free of tumor. **4. Margins from the pubic symphysis** Negative for malignancy **Frozen section diagnosis confirmed.** **1. Margins from the outer wall** Section reveals fibrocollagenous tissue with mild mononuclear inflammatory cell infiltrate, free of tumor. **2. Margins from the inner wall** Section reveals fibrocollagenous tissue with mild mononuclear inflammatory cell infiltrate, free of tumor. **3. Ligamentum teres margin** Section reveals fibrocollagenous tissue with mild mononuclear inflammatory cell infiltrate, free of tumor. **4. Margins from the pubic symphysis** Section reveals fibrocollagenous tissue with mild mononuclear inflammatory cell infiltrate, free of tumor. **5. Left hemipelvis** Sections reveal bony trabeculae with highly cellular marrow representating trilineage haematopoiesis. Also seen are areas of fibrosis, necrosis (30%), mononuclear inflammatory cell infiltrate along with a few hemosiderin laden macrophages. No evidence of residual malignancy seen. Immunohistochemistry done on sections R3, S16 and T4 for CD99, does not highlight any positive cells. Sampled margins are free of tumor.

Impression:	No Residual malignancy seen.

Date	Findings
	Impression: No residual malignancy seen.

Proposed recommendations as discussed in Multi-Disciplinary Sarcoma Tumour Board

Sl No.	Findings
01.	As per MDT, since postop HPE showed 20% necrosis and it is a non-metastatic adjuvent chemetherapy is planned and plan of radiation is needed. Autologous BMT is to be given

Physiotherapy Protocol

Operated limb to be kept in 30 degree flexed position with abduction. Upper limb strengthening exercises to be done. Right lower limb quadriceps as well as hamstring strengthening exercises to be done. Left lower limb hip passive flexion and knee extension to be done. Foleys Catheter Care - Clamp and release catheter care of intravenous catheter. Partial weight bearing ambulation with hip spica splint and walker plan for hydrotherapy once wound heals

MDT Members

Name	Designation
Dr. Pramod S Chinder	Consultant Orthopaedic Oncosurgeon
Dr. Nithin Teja Asadi	Orthopaedic Oncosurgeon
Dr. Abrar Mapkar	Orthopaedic Oncosurgeon
Dr. Arjun V H	Orthopaedic Oncosurgeon
Dr. Suma	Consultant Paediatric oncologist
Dr Premitha	Consultant Radiation oncologist
Dr Vishwajeeth Pai	Consultant Medical Oncologist
Dr Veena	Consultant Oncopathologist

Vetted By :

Tejas B R
Engineer

Shraddha Jagadish
Medical Design Engineer

Checked By :

Dr. Nithin Teja Asadi
Orthopaedic Oncosurgeon

Dr. Abrar Mapkar
Orthopaedic Oncosurgeon

Dr. Arjun V H
Orthopaedic Oncosurgeon

Signed By :

Dr. Pramod S Chinder
Consultant Orthopaedic Oncosurgeon