



**ORIGINAL RESEARCH PAPER**

**Oncology**

**GERM CELL TUMOR; AS A DIFFERENTIAL IN RETROPERITONEAL MASS IN A YOUNG MALE**

**KEY WORDS:** Germ Cell Tumor, Retroperitoneal Mass, Differential diagnosis

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**ABSTRACT** Testicular tumor is a common malignancy in young men in western countries. Among all cancers in men, Testicular tumor comprises only 1% of all tumors in men. Among all testicular tumors nearly around 95% are germ cell tumors. Germ cell tumor is further divided into seminomas and Non-seminomas. Non-seminomas are usually diagnosed (10-20) years earlier than non seminomas. Primary tumor of retroperitoneum is rare. Incidence of primary retroperitoneal tumor is around 0.1% to 0.2%. The age of diagnosis of retroperitoneal tumor is (3-50) yrs. We report here a differential diagnosis of retroperitoneal mass as a germ cell tumor testis in young male.

**INTRODUCTION:**

Testicular tumor is a common malignancy in young male in western countries. Testicular tumor is further divided into Seminomas and Non seminomas. The risk factor for Germ Cell Tumor is- Undescended testis, Positive family history, Alcohol abuse, Smoking, among infertile male. Among all risk factors, Undescended testis is the most common cause of germ cell tumor. Seminoma Germ Cell tumor shows raised S.beta HCG and normal Serum alpha fetoprotein levels while in non-seminomatous Germ Cell Tumor there is raised level of serum Alpha Fetoprotein. There is also another class which showed raised levels of both Serum Alpha fetoprotein and beta HCG and these tumors are called Mixed Germ Cell Tumor.

Retroperitoneum is described as anterior border of retroperiteum compartment has posterior parietal peritoneum and posterior border is transversalis fascia. Superiorly it has diaphragm and inferiorly Pelvic diaphragm made by levator ani and coccygeus muscles. The peritoneum compartment is divided into 3 sub compartments as anterior pararenal peritoneum, perirenal peritoneum and posterior pararenal peritoneum. Primary tumor of retroperitoneum is rare. Retroperitoneum tumor accounts only 0.1-0.2% of all neoplasm.

**Case report:**

A 17 years old male presented to Surgery emergency at GMCH Chandigarh with chief complains of recurrent

vomiting, pain abdomen, unable to pass stools and bladder for 1 day. Vomiting was insidious in onset, Non projectile, Non bilious, Non blood stained, does not contain any clots and (8-9) times a day. Pain was insidious in onset, diffuses involvement of abdomen, radiating to whole abdomen and back, sharp, aggravating on movement and eating and not relieved on medication.

**Treatment history:**

Patient was taken to emergency operation theatre incision was given over abdomen but on opening abdomen a large mass was found. No bowel loops were there only mass was visible in abdomen and pelvic region. Incision was closed and patient referred to radiation oncology Department with Ryles tube in situ. Patient was kept on TPN as disease is inoperable.



**Fig 1: Shows patient with Ryle's Tube in Situ.**

We (Radiation Oncologist) examined patient. Abdomen was stony hard and tense. Testicles were normal. We kept Germ Cell tumor as differential diagnosis in retroperitoneal Mass Tumor in young male. We started BEP (Bleomycin, Etoposide, and Cisplatin) regimen.

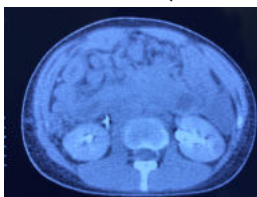
Inj Bleomycin-d2, d9, d16, Inj Etoposide-d1-d5, Inj Cisplatin-d1-d5

And our (BEP) regimen for keeping germ Cell Tumor testicle as a differential in retroperitoneal mass in young male worked. Now patient is 99% symptomatically relieved and more than 95% radiologically relieved. Now patient can take oral meals and can pass stools and flatus.



**Fig 2: Shows post 03cycle chemotherapy response**

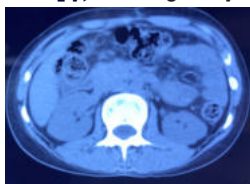
**Investigations-CECT abdomen (December 2020)**



**Fig 3: shows tumor mass and bowels are not visualized**

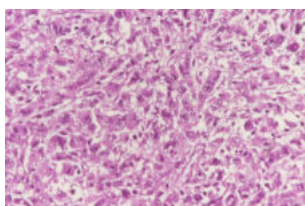
- 1) Mild thickening of wall of terminal ileum and ileocaecal junction with surrounding fat stranding and inflammatory changes with mural stratification involving ascending colon, transverse colon.
- 2) Lobulated ascites with enhancing mildly thickened peritoneum and mesenteric, peritoneal and retroperitoneallymphadenopathy.
- 3) Enlarged left para aortic , aortacaval and periportal lymph nodes are seen.

**CECT Abdomen (April 2020) (Post 3 cycles of BEP regimen chemotherapy): Shows grossly normal study.**



**Fig 4: shows regression of tumor size and visualization of bowel loops.**

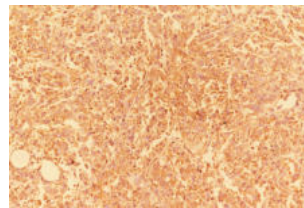
**Histopathological examination**



**Fig 5: tumor cells arranged in sheets and short fascicles (400X)**

Retroperitoneal Mass- Malignant tumor  
-Tumors are arranged in sheets and short fascicles. Tumor cells are round to oval having coarse to vesicular chromatin, prominent nucleoli.

**IHC**



**Fig 6: tumors shows vimentin positivity**

**CONCLUSION:**

Primary retroperitoneal tumor is very rare in incidence. Incidence was about to (0.1-0.2%) of all tumors. Testicular tumor is a common malignancy of young males. Testicular tumor usually comprises around 1% of all malignancies among men. Among testicular tumor, Germ Cell tumor is the most common histology known. As in this case young male presented with retroperitoneal mass which is inoperable. Patient was kept on TPN and discharged. We started (BEP) as a GCT as a differential of retroperitoneal mass. Our differential worked and patient was 99% symptomatically relieved and more than 95% radiological improvement seen. By keeping GCT as a differential we could improve quality of life of patient. So keeping GCT a differential in young male overall quality of life of patient improved. Now patient can have oral meals and able to pass stools and flatus.

So further reporting of such rare cases and outcome in literature is of Para –amount importance to guide the disease risk factor, progress, treatment and ultimately improve the quality of life of patient.