



TESTICULAR TUMOR IN UNDESCENDED TESTIS IN CHILDREN BELOW 5 YEARS OF AGE

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TUMOR IN UDT BELOW 5 YEARS- INTRODUCTION

- UDT is a common congenital anomaly affecting 2-5% boys at term and fall to 1% at 1 year
- Children born with UDT have increased risk of testicular malignancy
- Overall testicular tumor accounts for 2% of all solid malignant neoplasm with predominantly Yolk sac tumor histology



TUMOR IN UDT BELOW 5 YEARS- INTRODUCTION

- 10% of Testicular tumor arise from UDT (Abratt et al 1992)
- In UDT Testicular Tumor usually occur during puberty (peak age 3rd & 4th decade)
- histology is mostly Seminoma and mixed Germ cell tumors with element of ECT, teratocarcinoma & choreocarcinoma (Batata et al, Cancer; 1992)



TUMOR IN UDT BELOW 5 YEARS- INTRODUCTION

- Relative risk of developing testicular tumor in UDT is 4.8 (Dieckman K P, World J Urol 2004)
- Till date 32 cases of Intraabdominal testicular tumor(IAT) reported in UDT before puberty
- Prepubertal tumor differ with respect to incidence, clinical manifestation, histopathology and prognosis



TUMOR IN UDT BELOW 5 YEARS- AIMS

- Evaluation of the presentation, treatment and outcome of testicular tumor in undescended testis in boys below 5 years of age



TUMOR IN UDT BELOW 5 YEARS- MATERIALS AND METHODS

- Records review of boys below 5 yrs 2008-2011 having UDT
- Both benign and malignant germ cell tumor (GCT) in Undescended testis
- Presentation of UDT was noted
- Benign cases- only surgery
- malignant cases- Neoadjuvant and adjuvant chemotherapy, (Cisplatinium+Etoposide+Bleomycin- PEB)



TUMOR IN UDT BELOW 5 YEARS- RESULTS

- 7 boys age range 18-54 month(mean31months) having GCT in UDT
- 4 boys had nonpalpable UDT while 3 had palpable UDT
- In palpable UDT 1/3 had testis in inguinal canal, 1/3 had peeping testis and 1/3 had enlarged testicular mass in inguinal canal
- 5/7 had right sided UDT, 2/7 had left sided UDT



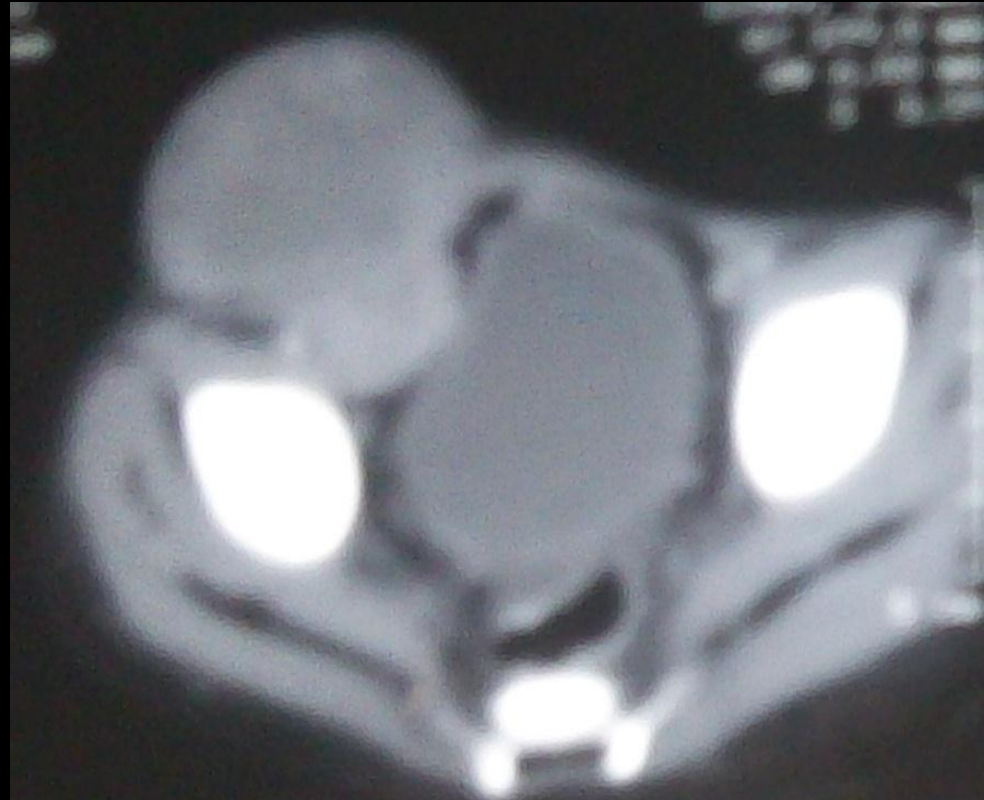
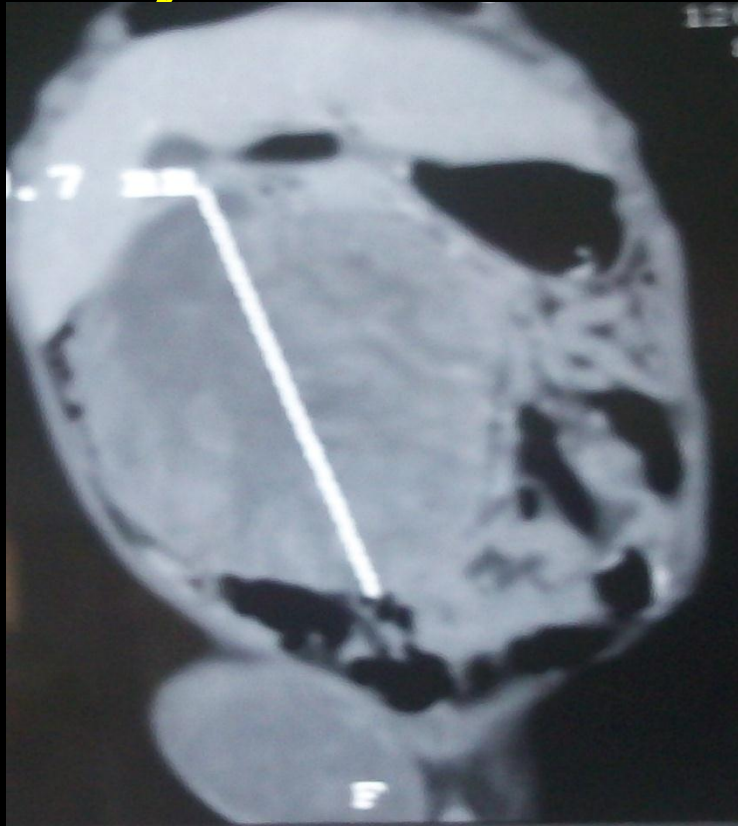
TUMOR IN UDT BELOW 5 YEARS- RESULTS

- 5 of 7 (71%) had abdominal mass at presentation (out of 5 one had both inguinal and abdominal mass)
- Antenatally detected mass in 1 patient (27week)
2.1x1.9cm- became 4.9 × 4.4 × 4 cm at 5 month
- 2 of 7 (21%) had GCT detected during orchiopexy (initially diagnosed as palpable unilateral UDT)



TUMOR IN UDT BELOW 5 YEARS- RESULTS

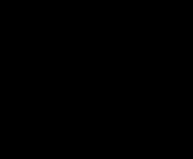
- USG and CECT showed heterogenous solid cystic mass





TUMOR IN UDT BELOW 5 YEARS- RESULTS

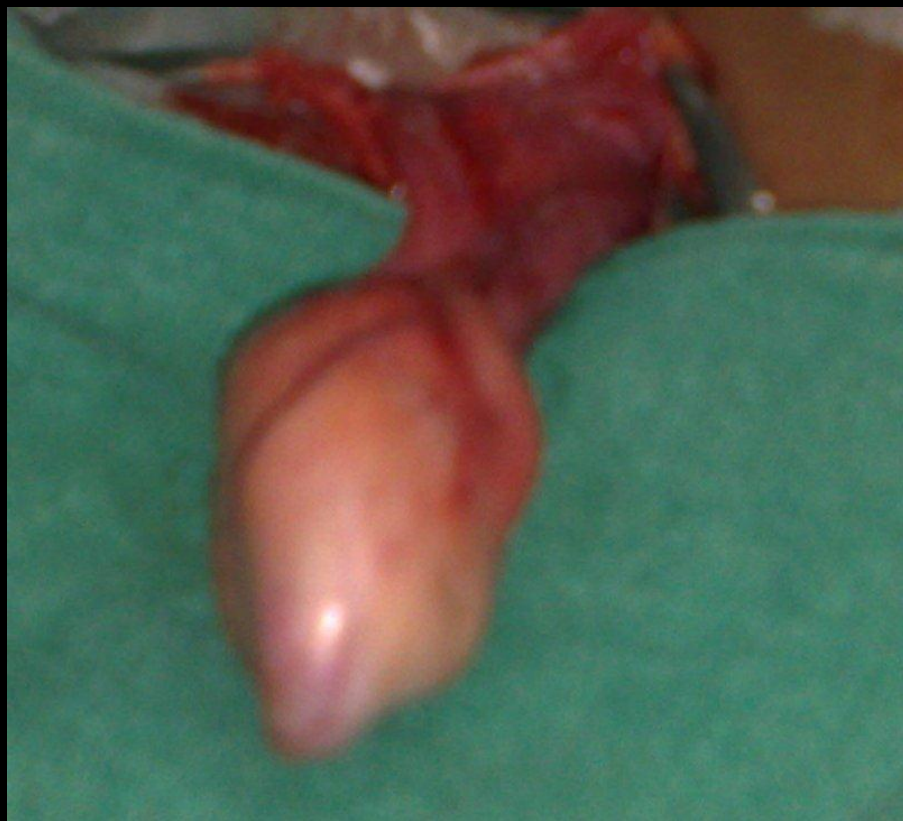
- Mass in UDT on clinical examination





TUMOR IN UDT BELOW 5 YEARS- RESULTS

- Tumors detected during orchiopexy





TUMOR IN UDT BELOW 5 YEARS- RESULTS

- α FP was markedly elevated in 3 patients having abdominal mass (800ng/ml, 352340ng/ml, 18960ng/ml)
- 2 of 3 patients having elevated α FP had endodermal sinus tumor
- 1 of 3 patients having elevated α FP had embryonal carcinoma



TUMOR IN UDT BELOW 5 YEARS- RESULTS

- 2/5 patients having abdominal mass one had immature teratoma and one had mature teratoma (antenatally diagnosed)
- 2 /7 patients detected incidentally during orchiopexy had mature teratoma



TUMOR IN UDT BELOW 5 YEARS- RESULT

- Neoadjuvant chemotherapy (PEB) was given to 3 patients having raised α FP- 2 course
- α FP went to normal in all 3 patients
- Surgical resection was done in all 3 patients
- One course of adjuvant chemotherapy (PEB) was given to all 3 patients



TUMOR IN UDT BELOW 5 YEARS- RESULT

- Patients with mature and immature teratoma did not receive any chemotherapy
- All the 7 patients are alive and disease free
- follow up ranges from 48months- 2months
- 2 patients subsequently had testicular prosthesis



TUMOR IN UDT BELOW 5 YEARS- DISCUSSION

- Risk factors association in UDT
 - Bilateral UDT
 - Abnormal external genitalia
 - Abnormal karyotype
 - Intraabdominal testis
 - Late corrected UDT
 - Uncorrected UDT
- (Hadley M, J of Urol, 2009)



TUMOR IN UDT BELOW 5 YEARS- DISCUSSION

- RR of testicular cancer in all patients with UDT is 2.75 to 8 with lower risk (RR 2 to 3) in patients undergoing prepubertal orchiopexy
- Malignant tumors developing in uncorrected abdominal or inguinal testes 74% are seminoma
- Malignant testis tumors developing following orchiopexy 63% are nonseminomatous
- Orchiopexy appears to decrease the risk of seminoma ((Hadley M, J of Urol, 2009)



TUMOR IN UDT BELOW 5 YEARS- DISCUSSION

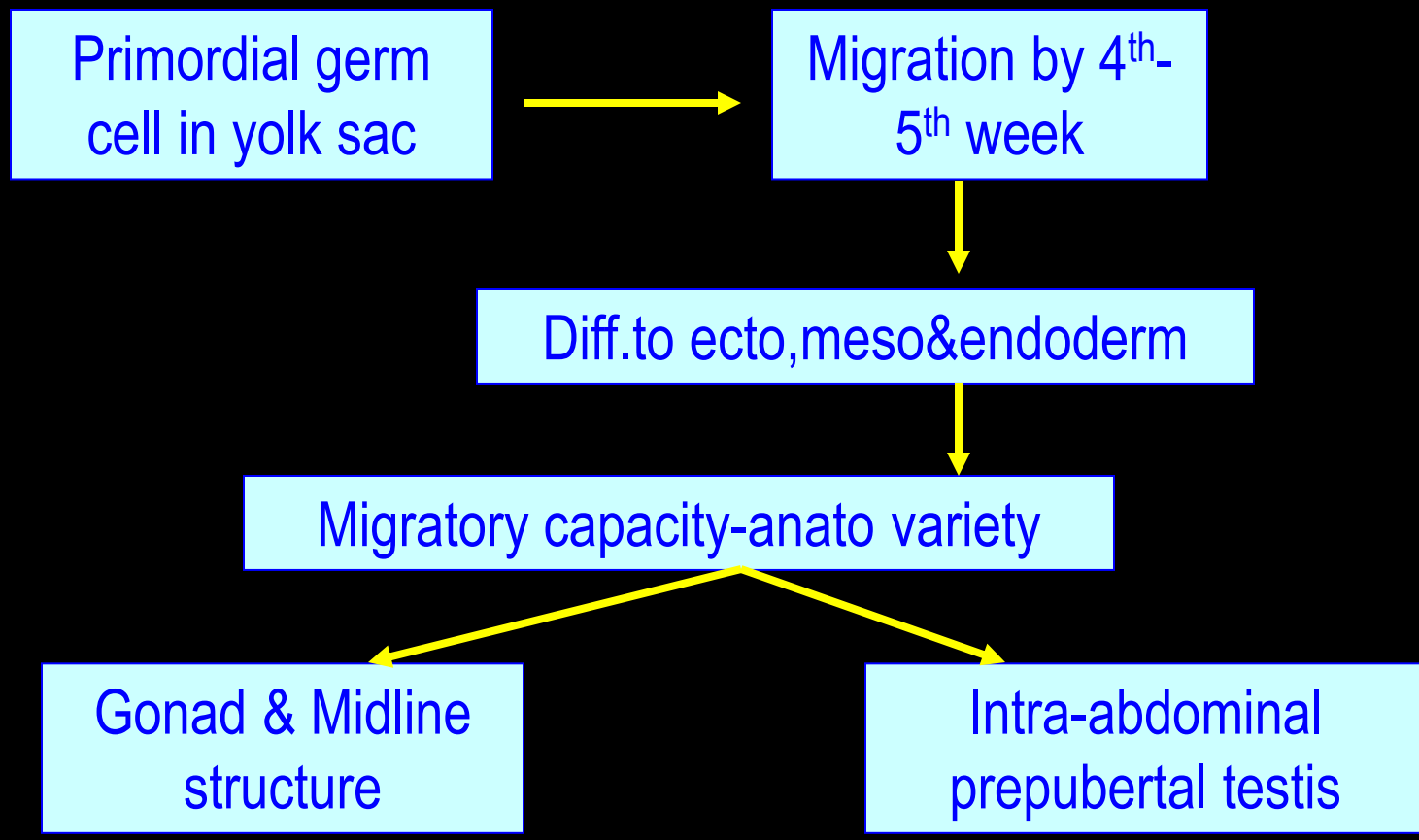
- Till date 33 case of intraabdominal tumor(IAT) in UDT in prepubertal (0-15years,average 2.6yrs)
 - Right 13, left 19, 1 not mentioned
 - Mature teratoma(25/33), Immature teratoma(2/33)
Yolk sac tumor(2/33), Embryonal carcinoma (2/33)
Seminoma(1/33)
- Journal of Pediatric Surgery (2009) 44, E15–E18
Natsumi Tanaka



TUMOR IN UDT BELOW 5 YEARS- DISCUSSION



- Possible explanation for prepubertal testicular tumor in UDT is Germ cell theory





TUMOR IN UDT BELOW 5 YEARS- DISCUSSION

- Another explanation is an unidentified intranatal/perinatal oncogenetic process
- antenatal tumor process itself may prevent testicular descent
- Pathologically, prepubertal testicular teratomas are almost always pure
- prepubertal testicular teratomas are benign



TUMOR IN UDT BELOW 5 YEARS- CONCLUSION

- Prepubertal uncorrected UDT tumors are rare
- Suspect strong possibility of intraabdominal testicular germ cell tumor if UDT coupled with abdominal mass
- Prepubertal intraabdominal testicular germ cell tumors are usually mature teratoma but may be malignant
- Benign tumor-resection only
- Malignant tumor- chemotherapy and resection