4 weeks. No correlation was found between average dose intensity and age; a negative correlation was found with the tumour mass (−0.16). In particular, the minimal p values were achieved with the following thresholds: 0.96 for cisplatin; 0.72 for etoposide; 0.66 for bleomycin and 0.77 for the average dose intensity. In conclusion: cisplatin cannot be reduced; the BEP schedule is using the borderline dosage of etoposide; the borderline dosage of bleomycin is two thirds of the standard dose.

918 POSTER

POSTORCHIECTOMY MARKERS ELEVATION ONLY IN NON-SEMINOMATOUS GERM-CELL TUMOURS (NSGCT) OF THE TESTIS

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Between 1980 and 1993, we observed 31 consecutive patients with persistently elevated AFP and/or HCG with normal imaging following orchiectomy for a NSGCT: 23 underwent primary retroperitoneal lymph node dissection (RPLND) and 8 primary cisplatin based chemotherapy (ChT). Twenty (87%) of the operated patients had histologically documented retroperitoneal metastases, and, of the 3 patients with negative nodes, 2 had early evidence of distant metastases and 1 had early markers normalization following RPLND (putative unrecognized retroperitoneal metastases): over-all, 9 of 23 operated patients had post operative evidence of distant metastases and another 2 received adjuvant ChT. After a median follow-up of 72 mos (range 15 to 156 mos), all 23 (100%) patients are alive disease free, 52% following RPLND alone. All 8 patients treated with primary ChT entered complete remission and 4 (50%) recurred, 1 with a resectable teratoma and 3 with cancer. After a median follow-up of 57 mos (range 23 to 133), only 6 patients (75%) are alive disease free, 50% following primary ChT alone. Both primary RPLND and primary ChT cured approximately 50% of patients, but salvage following primary RPLND was easier.

919 POSTER

"WAIT AND SEE" POLICY FOR PATIENTS WITH CLINICAL STAGE I NON-SEMINOMATOUS TESTICULAR GERM CELL TUMORS (NSTGCT)

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Goal: To investigate the frequency, time and detection of tumor recurrence.

Methods: During the period 1982–1992, 154 patients with a clinical stage I NSTGCT entered the study. After orchidectomy patients were followed by physical examination, serum tumormarkers AFP and HCG, chest X-rays and CT scanning of abdomen and chest.

Results: After median follow-up of 7 (range 2–12) years 42 patients (27.3%) had recurrent disease. All were detected within 2 years, over 90% in the first year after orchidectomy. After chemotherapy treatment for recurrence, the survival rate in the whole group was 98.7%.

Early detection by:	(%)	Site of recurrence:	(%)
AFP and/or HCG (TM)	8 (19.0)	Retroperitoneum (RP)	27 (64.2)
TM and CT	17 (40.5)	Mediastinum (M)	2 (4.8)
Only CT	16 (38.1)	Lungs (L)	2 (4.8)
Physical examination	1 (2.4)	RP and M and/or L	9 (21.4)
Chest X-rays	0 (0.0)	Inguinal lymph nodes	2 (4.8)

Conclusion: For the follow-up of patients with clinical stage I NSTGCT the wait-and-see policy is a reliable method. Probably after 5 years the follow-up can be discontinued. Chest X-rays are in the follow-up of no value.

920 POSTER

SECONDARY LEUKEMIA CAUSED BY ETOPOSIDE CONTAINING CHEMOTHERAPY IN GERM CELL CANCER PATIENTS

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Several reports have suggested that etoposide containing therapy caused a secondary leukemia in germ cell cancer pts. From December 87 to December 1993 187 pts with nonseminomatous germ cell tumors were included to the etoposide containing first-line treatment protocols (BEP, EP, EC, CEB) with a planned cumulative etoposide dose of 1440–2000 mg/m^2. The med. follow up for pts alive was 41 (13–87) mo. The follow up data are summarized in the table.

Years of follow up	Current status			
	Alive	Dead	Lost	Total
0–1	-	22	-	22
1–2	27	21	3	51
2–3	24	7	1	32
3–4	30	3*	1	34
4–5	17	-	1	18
>5	30	-		30
Total	128	53	6	187

One pt* received 4 cycles of EC (etoposide cumulative dose was 2000 mg/m^2) developed a secondary leukemia (FAB M4) 37 mo after beginning chemotherapy. He achieved a clinical remission with ara-C + daunorubicin + etoposide, but relapsed and died. In our cohort of 187 pts treated with a conventional dose of etoposide a risk of a secondary leukemia is low.

921 PUBLICATION

THE ROLE OF SERUM ESTROGENE LEVELS FOR PATIENTS WITH TESTICULAR CANCER

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In patients (pts) with metastatic testicular germ cell tumours tumour burden, sites of metastatic disease and the elevation of tumour markers AFP and β-HCG have been identified as prognostic factors. For pts with seminomas (S) no tumour markers are available. In a retrospective analysis we evaluated the possible prognostic role of serum levels for total estrogens (E), estrone and estradiol in pts with non-seminomatous (NS) or seminomatous (S) germ cell tumours.

Pts characteristics: 481 patients with a median age of 31 years (15–78) treated between 1978–88 were included. Among 155 pts with S 57 (59%) at stage I had elevated E-levels and 5 (22%), 4 (44%) and 2 (25%) pts with minimal (min), moderate (mod) or advanced (adv) disease S, respectively. Among 326 pts with NS 73 pts (60%) at stage I and 34 (39%), 11 (52%) and 32 (54%) pts with min, mod or adv disease had elevated estrogen levels, respectively. Elevated E-levels occurred most frequently with trophoblastic histology (78%) and least frequently with teratocarcinoma (42%). For pts with minimal disease (both S and NS) elevation of serum E-levels >5.5 nmol/l was the only significant prognostic factor for relapse free and overall survival. For adv disease pts elevations of E, AFP and β-HCG were independent prognostic factors for relapse free and overall survival during multivariate analysis.

Conclusion: Elevated serum E-levels without elevation of AFP or β-HCG occur in 4% (adv)—18% (stage I) of pts with NS and in 9% (adv)—59% (stage I) of pts with S. In addition to AFP and HCG-levels elevation of E-levels seem to constitute an independent prognostic factor for relapse free and overall survival.

922 PUBLICATION

INTENSIVE CHEMOTHERAPEUTIC REGIMEN WITH DOXORUBICIN, VP 16, BLEOMYCIN, CYCLOPHOSPHAMIDE, CISPLATIN (CHBEP) IN GERM CELL TUMORS (GCT)

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From 1986 to 1994, 34 patients (pts)—median age 30 yrs (range 15–56), PS 0–1, with poor prognosis GCT were treated with CHBEP. 20 pts had primary GCT of the testis and 14 pts had extragonadal GCT (EGCT). 5 pts were in 1st relapse. Pts received q21 days(d) × 3 or 4 cycles: Doxorubicin 75 mg/sqm d1, Cyclophosphamide 1200 mg/sqm d1, Bleomycin 10 mg/sqm d1-2-3, VP16 150 mg/sqm d1-2-3, Cisplatin 80 mg/sqm d1. 15 pts received rh-GCSF. 14 pts (6 EGCT, 4 GCT in 1st relapse, 4 GCT with visceral lesions) were treated after CHBEP with high dose chemotherapy (HDC) and ABMT.

Toxicity: 2 early deaths occurred; 75% pts had gr4 granulocytopenia, 40% pts had gr2–3 thrombocytopenia, 22% pts were admitted for neutropenic fever.

Results: overall response rate (RR) was 80% (2 CR, 27 PR). 28 pts achieved NED status at the completion of treatment: 20 pts with chemotherapy alone, with surgical resection of teratoma (1 pt) or residual cancer (7 pts). The median overall survival is 51 mths. For non relapsed pts, median survival is not reached (4 yrs survival: 55%).

Conclusions: CHBEP followed by HDC-ABMT seem to be an effective regimen in EGCT or GCT in 1st relapse.