

**Supplementary Table S1.** Detection methods, treatment and observed results in testicular cancer.

| Type of cancer                          | Detection method  | Therapy/treatment   | Results/conclusions  | Ref. |
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| Testicular teratoma of 63 men.          | Physical examination  | Radium and the X-ray (8000 mc and 140-200 kilo-volt)  | X-ray possess advantages over the radium pack  | [15] |
| Testicular teratoma of four men.        | Physical examination  | Radium (9,000-20,000 mc) X-ray: 320 ma (8000 mc, 140-200 Kv)                                | Teratoma recovery  | [16] |
| Testicular teratoma of 11 men.          | Histopathology, radioimmunoassay, carcinoembryonic antigen  | Vinblastine 10 mg, actinomycin D 2 mg, Methotrexate 200 mg, Folic acid, Bleomycin 15 mg     | Destruction of the cells of origin by chemotherapy                                   | [17] |
| Testicular seminoma of 53 men.          | Clinical examination, HCG, immunoassay                      | Orchiectomy, cobalt-60 or 10 MeV linear accelerator. (2000-5000 rad tumor)                  | Survival (94%).  | [18] |
| Testicular seminoma of 73 men.          | Chemoteraphy/phropilatic irradiation (1500-4000 rad)        | Orchidectomy, radiotherapy (175-3000 cGy)   | Survival (91%)   | [19] |
| Testicular tumors of 12 men.            | Immunoassay   | Orchiectomy and radiotherapy (1820-4500 rad)  | Induced significant 76% damage   | [20] |
| NSGCT: Stage II. 65 men                 | Histology-marker  | Vinblastine 7.5 mg/m <sup>2</sup> , bleomycin I mg, irradiation 4500-5500 rad,              | Eliminate recurrence and disease related mortality.                                  | [21] |
| Testicular GCT of 838 men.              | Clinical examination  | Orchidectomy, radiotherapy, orthovoltage X-rays, <sup>60</sup> Co X-ray                     | No increase in survival  | [22] |
| Testicular seminoma of 188 men.         | Clinical examination, chest X ray                           | Orchidectomy, radiation therapy (3000 cGy)  | Survival (89.5%).  | [23] |
| Stage I testicular teratoma of 248 men. | Clinical examination, chest X-ray, lymphography, urography. | Radiation 40 cGy  | Increase the risk of peptic ulceration.  | [24] |
| Metastatic testis tumors of 15 men.     | GPx activity, selenium                                      | Orchiectomy, PVB (10 mg, 0.2 mg/kg, 30 mg), mannitol frusemide 10 mg, chlorpromazine 25 mg. | Retention of cis-platin in tissues and subsequent alteration of selenium metabolism. | [25] |
| Testicular seminoma of 45               | Clinical examination  | Orchiectomy,  | Survival (near 100%)   | [26] |

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| men.  |   | orthovoltage 3000 rads   |   |      |
| Testicular metastatic and chemotherapy refractory GCT of 24 men | Biomarkers (HCG, AFP, LDH)  | Clophosphamide, cisplatin, doxorubicin, vinblastine, bleomycin               | The efficacy of salvage therapy need to identify others variables                   | [27] |
| Testicular seminoma stage I of 27 men:                          | CT scanning, LDH elevated   | Orchidectomy, irradiation (2500-3000 cGy)                                    | Irradiating only of para-aortic region (early stage seminoma)                       | [28] |
| Testicular seminoma of 128 men.                                 | Histology, clinical examination   | Post-orchidectomy radiation therapy (35 cGy)                                 | No tumor related deaths   | [29] |
| 121 men: NSGCT of the testis                                    | Histological evidence of markers  | CEB  | Independent-toxicity of tumor response to carboplatin                               | [30] |
| Metastatic testicular stromal cell tumor found in one man       | Ultrasound, chest x-ray, AFP and bHCG levels                                    | VIP (75 mg/m <sup>2</sup> , 20 mg/m <sup>2</sup> , 1 g/m <sup>2</sup> )      | Complete clinical remission   | [31] |
| Testicular seminoma of 128 men.                                 | Histology   | Orchidectomy, irradiation (2500-3400 cGy)                                    | Optimal treatment for patients with testicular seminoma.                            | [32] |
| Testicular biopsies of 46 men.                                  | AgNOR staining method   | Not treatment  | Reliable way to diagnose  | [33] |
| Testicular seminoma of 859 men.                                 | Histology   | Radiotherapy   | Not risk of mortality secondary related to radiotherapy                             | [34] |
| Testicular tumor testis found in one man.                       | Histological examination, serum hormone levels                                  | POMB with actinomycin D, cyclophosphamide and etoposide                      | Without evidence of tumor recurrence.   | [35] |
| Risk metastatic NSGCT found in 75 men                           | Physical examination, levels of AFP, HCG, bHCG, CT (thorax, abdomen and pelvis) | BEP (100 mg/m <sup>2</sup> , 20 mg./m <sup>2</sup> , 1-5 mg/m <sup>2</sup> ) | Therapeutic equivalence (three cycles of BEP and four cycles of etoposide-cisplatin | [36] |
| Metastatic testicular cancer found in one man                   | Mediastinoscopy, biopsy and histological examination                            | PET scan   | Specificity problem of FDG-PET scanning   | [37] |
| Testicular seminoma stage II found in 126 men:                  | Serum tumor markers (AFP, HCG), Chest radiograph                                | Radiotherapy (25-45 Gy), etoposide, cisplatin                                | Treatment for stage IIC seminoma.   | [38] |
| NSGCT in 438 men:   | Serum tumor markers (STMs; AFP and bHCG)  | Therapy of high-dose cisplatin plus autologous stem cell transplantation     | Remove malignant metastases from NSGCT  | [39] |

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| Testicular tumor in a solitary testis of 7 men:          | HIFU   | Testicular profilaxis irradiation (18 to 20 Gy)  | Ablating testicular cancer by transcutaneous HIFU.  | [40] |
| NSGCT clinical stage I found in 44 men                   | Clinical examination, serum tumor markers, chest x-ray, CT/ultrasound of abdomen, blood test, creatinine, AST, ALP | Orchiectomy, one cycle of BEP (20 mg/m <sup>2</sup> , 40 mg/m <sup>2</sup> , 120 mg/m <sup>2</sup> ) | Decrease in risk of relapse in patients with NSGCT stage I with BEP treatment (one cycle) | [41] |
| 38 men with early-stage I or II and low-risk disease in: | Serum analysis; liver/renal test; thorax, abdomen, and pelvis CT scan; lumbar puncture and bone marrow biopsy      | CEOP14 and (CEOP14R) regime  | Improves outcome of poorest prognosis in patients   | [42] |
| Testicular carcinoma found in 51 men                     | Levels of sex hormone-binding globulin, testosterone and LH  | Chemotherapy: 20 Gy and 16 Gy  | 16 Gy RT better preserving testosterone levels  | [43] |
| CS1 NSGCT found in 232 men                               | CT (thorax, abdomen and pelvis), serum tumor markers   | CVB (20 mg/m <sup>2</sup> , 0.15 mg/kg, 30 mg)   | Survival for CS1 NSGCT patients treated   | [44] |
| Stage I NSGCT found in 142 men                           | Histological examination   | BEP (15 IU, 120 mg/m <sup>2</sup> and 40 mg/m <sup>2</sup> )   | Effective and safe form of adjuvant therapy   | [45] |
| Testicular seminomatous GCT in one man                   | Ultrasound, CT, chest radiographs, HCG and AFP levels  | Four cycles of BEP salvage chemotherapy with four cycles of TIP, HDC, and ASCT                       | Complete remission (by imaging and serum biomarkers)                                      | [46] |
| Testicular seminoma 10 men: stage I                      | CT scans   | PBT (25.5 Gy)  | Decreased and reduced risk of second cancers  | [47] |
| TGCT found in 31 men                                     | AFP elevated, bHCG without disease on imaging  | Sunitinib (50 mg/day for 4 weeks)  | Modest clinical activity  | [48] |
| TGCT found in 157 men.                                   | Serum tumor markers  | PEB chemotherapy   | Decrease in the estimated glomerular filtration rate                                      | [49] |
| Testicular neoplasm in one man.                          | CT abdominal   | PEB (4 cycles), orchiectomy  | "Burned out" testicular neoplasm  | [50] |
| Testicular seminoma found in 199 men:                    | Testicular ultra-sound and serum measurement AFP, bHCG, CT scan  | Orchiectomy, radiotherapy  | Excellent long-term prognosis   | [51] |
| Testicular seminoma stage 1 found in 517 men.            | Clinical examination, chest X-ray levels of AFP, bHCG and LDH.   | Orchidectomy, carboplatin AUC-7  | Carboplatin as safe and effective adjuvant treatment                                      | [52] |
| YST found in 5 men                                       | AST, ALP, LDH, AFP, bHCG levels, CT (brain, chest, and abdomen), technetium-99 bone                                | PVB and JEB regimen  | JEB is sufficient as treatment option.  | [53] |

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| SBT found in one man.                                       | Ultrasonography, MRI   | Orchiectomy   | MRI could help to clinicians to differentiate SBT from other testis tumors                                  | [54] |
| Primary adenocarcinoma of the rete-testis found in one man. | Immunohistochemical, PET-CT.   | Orchiectomy, RPLND  | PET-CT is useful detecting metastasis   | [55] |
| Relapsed GCT and no curable options in 20 men               | Histology, increase of AFP, bHCG.  | Pembrolizumab (200 mg)  | Pembrolizumab did not demonstrate clinical benefit  | [56] |
| NSGCTT vascular invasion-positive stage 1 in 246 men        | CT (chest, abdomen, pelvis), AFP, LDH and HCG.   | Orchidectomy, PEB (30000 IU, 165 mg/m <sup>2</sup> , 50 mg/m <sup>2</sup> )               | Cisplatin (BE500P) was safe in use  | [57] |
| SEMs (53) non-seminomatous (37) tumours.                    | CT (chest, abdomen), ultrasonography, levels of hCGb, AFP, hPLAP and LDH in the cubital vein | 24.5% of peripheral vein bHCG was positive (+), vs 84.6% bHCG (+) in the testicular vein. | Testicular tumor markers are more frequently positive in the spermatic vein as compared to the cubital vein | [58] |

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