

睾丸腫瘍における胎盤様アルカリフォスファターゼ(PCAP-like)の研究

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1991 Fiscal Year Final Research Report Summary

Placental-like alkaline phosphatase in testicular tumor

Research Project

Project/Area Number

01570883

Research Category

Grant-in-Aid for General Scientific Research (C)

Allocation Type

Single-year Grants

Research Field

Urology

Research Institution

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Testicular tumor / placental-like / Tumor marker / Immunolocalization

Research Abstract

The role of PLAP-like as a tumor marker was evaluated in 62 cases of testicular germ cell tumors. Positive rates in different histology as well as stages were as follows ; seminoma, stage I : 42%, stages II-III, 90%, nonseminoma, stage I : 17%, stages II-III : 44%. Serum PLAP-like values in stages II-III were significantly higher than those in stage I. Tissue PLAP-like concentrations in 32 seminomas and 15 nonseminomas were also investigated. Significant differences in PLAP-like concentrations were disclosed between seminoma tissues and nonseminoma tissues as well as between the cases with elevated serum levels and the cases with normal serum levels. Serum values in stage I turned to normal within a week after orchietomy. Half-life in the circulation was calculated at 2 days. Four out of 93 cases(4.3%), 17 of 594 samples(2.9%)in a follow-up study were regarded as false positive. Thus PLAP-like appears to be a useful marker for seminoma.

To investigate a potential use of an anti-PLAP monoclonal antibody for detecting tumors, HPMS-1 MAb labeled with I-125 was injected to athymic mice bearing tumors producing PLAP. Although accumulation rate(%dose/g tissue)was gradually decreased in the tumor, clearance of the MAb in other organs were more rapidly. Thereby an increase of tumor/organ ratio with time was observed, resulted in a clear tumor imaging after 9 days of injection. PLAP concentrations in the transplanted tumors were lower than those of primary seminomas or metastatic lymphnodes of seminoma. Therefore a potential use of the anti-PLAP MAb(HPMS-1)for detecting metastatic lesion of seminoma could be expected.

Research Products (9 results)

All Other

All Publications (9 results)

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- [Publications] K.Koshida: "Characterization of seminoma-derived placental-like alkaline phosphatase" Urologia Internationalis. 47(Suppl). 96-99 (1991) ▼
- [Publications] K.Koshida: "Analysis of serum placental alkaline phosphatase activity in testicular cancer and cigarette smokers" Urological Research. 18. 169-173 (1990) ▼
- [Publications] E.Brchmer-Andersson: "Isoenzyme of alkaline phosphatase in seminomas An immunohistochemical and biochemical study" APMIS. 98. 977-982 (1990) ▼
- [Publications] 西野 昭夫: "精巣腫瘍患者における血清および組織内胎盤性アルカリフォスファターゼ値に関する検討" 日本泌尿器科学会雑誌. 81. 1506-1512 (1990) ▼
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