Case Report

Received: June 8, 1993

Accepted after revision: November 29, 1993

Urol Int 1994;53:48-49

Mesenteric Desmoid Tumor 19 Years after Radiation Therapy for Testicular Seminoma

H.E.H.	Hartmut E.H.	Wegner
B.	Barbara	Fleige
K.-P.	Klaus-Peter	Dieckmann

Departments of Urology and Pathology, Universitätsklinikum Steglitz, Freie Universität Berlin, FRG

Key Words

Seminoma
Radiation therapy
Desmoid tumor

Abstract

This is the first report of a desmoid tumor 19 years after radiation therapy for seminoma of the testis at the age of 40. It stresses the need to include the desmoid tumor in the differential diagnosis of an [intra-abdominal](#) tumor after treatment of testicular cancer as well as the possible radiation induction of desmoid tumor.

Dr. med. Hartmut E.H. Wegner, Urologische Klinik und Poliklinik, Universitätsklinikum Steglitz, Freie Universität Berlin, Hindenburgdamm 30, D-12200 Berlin (FRG)

Introduction

Fibromatosis covers a wide range of dysplastic connective tissue lesions, with the desmoid tumor representing a particular type. It usually involves the anterior abdominal wall, rarely the mesentery. The desmoid tumor does not metastasize, but has a strong tendency to recur after local excision [1]. Only twice has a desmoid tumor been reported following treatment for testicular germ cell tumors [2, 3], and this is the first report where radiation therapy for a testicular germ cell tumor is presumed to having been casual.

Case Report

A 40-year-old man had a testicular seminoma that was treated with orchiectomy followed by irradiation of the retroperitoneal, mediastinal, and subclavian nodes (400, 400, 300 Gy, respectively) for lymphographically confirmed metastases, stage lib. The follow-up was uneventful until a big palpable abdominal tumor was detected 19 years later. Metastatic evaluation, including a chest X-ray, complete blood count, liver function studies, human chorionic gonadotropin, α -fetoprotein, and lactic dehydrogenase, was normal. A CAT scan (fig. 1) disclosed a solid intraperitoneal tumor. Lapa-rotomy was performed for the presumed recurrence, and a 10 $\times$ 15 $\times$ 20 cm grayish-white tumor infiltrating the proximal ileum and ileal mesentery was excised with the adjacent ileum. The patient is well 2 years later. Histological examination revealed slender spindle cells lacking mitotic activity and atypia with abundant collagen and focal hemorrhage. Partial infiltration of the ileal muscularis propria as well as adjacent fatty tissue was detected (fig. 2). The histological diagnosis was fibromatous tumor consistent with desmoid tumor.

Discussion

Desmoid tumor is a rare locally invasive fibroblastic proliferation usually arising in the fascia or aponeurosis and infiltrating the adjacent muscle. The tumor lacks the ability to metastasize. Macroscopically, it is firm and grayish. Histologically it is characterized by interwoven spindle cells and varying amounts of collagen; the center is often almost acellular. The vigorous cellularity of the periphery sometimes makes it resemble a fibrosarcoma. Extra-abdominal and abdominal desmoid tumors have the same incidence, the latter usually arising from the posterior sheath of the rectum muscle. Mesenteric desmoid tumor is rare and predominantly afflicts females [1].

The etiology of desmoid tumors is unknown. However, an inherited defect of connective tissue formation with a variable autosomal dominant trait is discussed [4]. Trau-

© 1994 S. KargerAG, Basel

0042-1138/94/0531-0048

\$8.00/0

\J/8/8

V -

• 3/8J«•*

Fig. 1. CAT scan demonstrating intra-abdominal mass extending from the right psoas muscle to the anterior abdominal wall.

Fig. 2. Histological specimen showing spindle cells, abundant collagen and partial infiltration up to the ileal mucosa. HE. $\times 40$.

ma, especially operative and radiation-induced trauma, is an important contributing factor [5]. Treatment is by surgery or, when unresectable, by radiation therapy. Local recurrence following surgery occurs in 27-57% of the cases, radiation therapy is only palliative in nature [6-8]. Radiation therapy should be limited to unresectable cases or recurrence after surgery. In these cases, the recurrence rate could be reduced to 18% [8]. The role of chemotherapy (e.g. ifosfamide) and hormonal manipulation (tamoxifen or progesterone) has not yet been fully evaluated [6, 8].

This is the first report on a desmoid tumor after radiation therapy for seminoma. Previously, desmoid tumors have been described twice after treatment of testis cancer, each time after chemotherapy and posterior retroperitoneal lymphadenectomy for nonseminomatous cancer [2,

3]. In both cases, either the surgically induced trauma or the neoplastic potential of the cytotoxic drugs may have induced the tumor.

Reitamo [6] reported that the recurrence of a desmoid tumor increased significantly after extensive operation and trauma induced by radiation therapy; however, primary growth induction by radiation therapy for other causes has not yet been described. Because the desmoid tumor reported here developed in the area of maximal radiation exposure, we believe it may have been induced by radiation; this is questioned by the findings by Meis and Enzinger [9] who demonstrated only four possibly such radiation-induced lesions in a total of 38. The desmoid tumor should be included in the differential diagnosis of recurrent intra-abdominal tumor after radiation therapy for testicular cancer.

References

- Reitamo JJ, Häyry P, Nykyri E, Saxen E: The desmoid tumor. I. Incidence, sex, age, and anatomical distribution in the Finnish population. *Am J Clin Pathol* 1982;77:665-673.
- Gianis TJ, Carey PM, Bracken RB: Giant desmoid tumor of the abdominal wall masquerading as recurrent testis cancer. *J Urol* 1987; 138: 152-153.
- Little SJ, Foster RS: Intraabdominal desmoid tumor: An unusual case of recurrent tumor in a testis cancer patient. *J Urol* 1992; 147:169-171.
- Häyry P, Reitamo JJ, Vihko R, Jönne O, Scheinin TM, Tötterman S, Ahonen J, Norio R, Alanko A: The desmoid tumor. III. A biochemical and genetic analysis. *Am J Clin Pathol* 1982;77:681-685.
- Häyry P, Reitamo JJ, Tötterman S, Hopfner-Hallikainen D, Sivula A: The desmoid tumor. II. Analysis of factors possibly contributing to the etiology and growth behavior. *Am J Clin Pathol* 1982;77:674-680.
- Reitamo JJ: The desmoid tumor. IV. Choice of treatment, results, and complications. *Arch Surg* 1983;118:1318-1322.
- Hill DR, Newman H, Phillips TL: Radiation therapy for desmoid tumor. *AJR* 1973;117: 184-189.
- Hoffmann W, Weidmann B, Schmidberger H, Niederle N, Seeber S, Bamberg M: Klinik und Therapie der aggressiven Fibromatose (Desmoide). *Strahlenther Onkol* 1993;169:235-241.
- Meis JM, Enzinger FM: Inflammatory fibrosarcoma of the mesentery and retroperitoneum: A tumor closely simulating inflammatory pseudotumor. *Am J Surg Pathol* 1991;15: 1146-1156.