

Buerger's Disease of Paratesticular Tissue

— A case report —

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— Abstract —

We report a case of Buerger's disease manifested by a scrotal mass, in view of its rarity. A tender bean sized mass was palpated in the left scrotum of a 34 year-old male heavy smoker, who had a history of right leg pain two years ago which subsided spontaneously. The left testis with the paratesticular tissue was excised. Vessels of the spermatic cord and epididymis showed microscopic changes of Buerger's disease.

The involved arteries and veins revealed a predominantly subacute pattern with granulomatous inflammation and Langhans' type giant cells within the thrombi.

Key Words: Buerger's disease, thromboangiitis obliterans, paratesticular tissue, spermatic cord

INTRODUCTION

Buerger's disease is an inflammatory occlusive vascular disease.

Vast majority of the patients are males before the age of 40, who have a significant smoking history. It generally restricted to small to intermediate sized arteries of the extremities¹⁻⁴⁾, although those of the head, heart, viscera and spermatic cord may occasionally be affected^{2,4-6)}.

Contiguous connective tissue and adjacent veins are commonly involved. It can be divided into three histopathologic stages, the acute, subacute and chronic^{2-4,7)}. But each vessel may show different stages of evolution, because of its remitting-relapsing nature.

In English literature, there has appeared only 8 cases of Buerger's disease involving spermatic cord and epididymis^{4,8-12)}.

There is no report of such a case in Korea. Recently we experienced such a case, which prompted us to report in view of its rarity and its importance in differential diagnosis of scrotal masses.

CASE REPORT

The patient, a 34 year-old rugger, visited this hospital because of a palpable mass in the left scrotum for 15 days. He smoked cigarette two packs a day for ten years and have a history of right leg pain two years ago, which subsided spontaneously. On physical examination, a tender, bean-sized round to oval mass was palpated in the left scrotum.

All laboratory data were within normal limits. The left testis and epididymis as well as the spermatic cord were removed.

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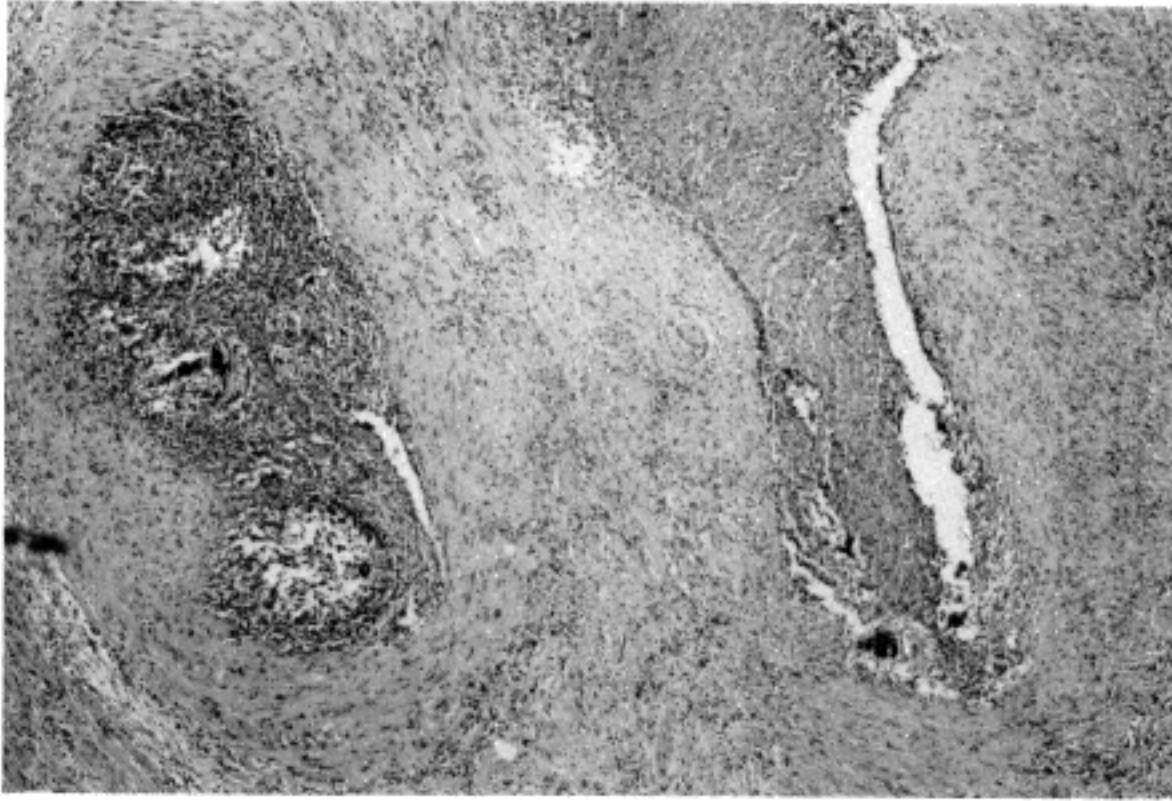


Fig. 1. Medium sized artery and vein of the spermatic cord shows occlusive thrombi. The vessel wall is thickened by mononuclear cell infiltration without fibrinous necrosis. (H & E, x40).

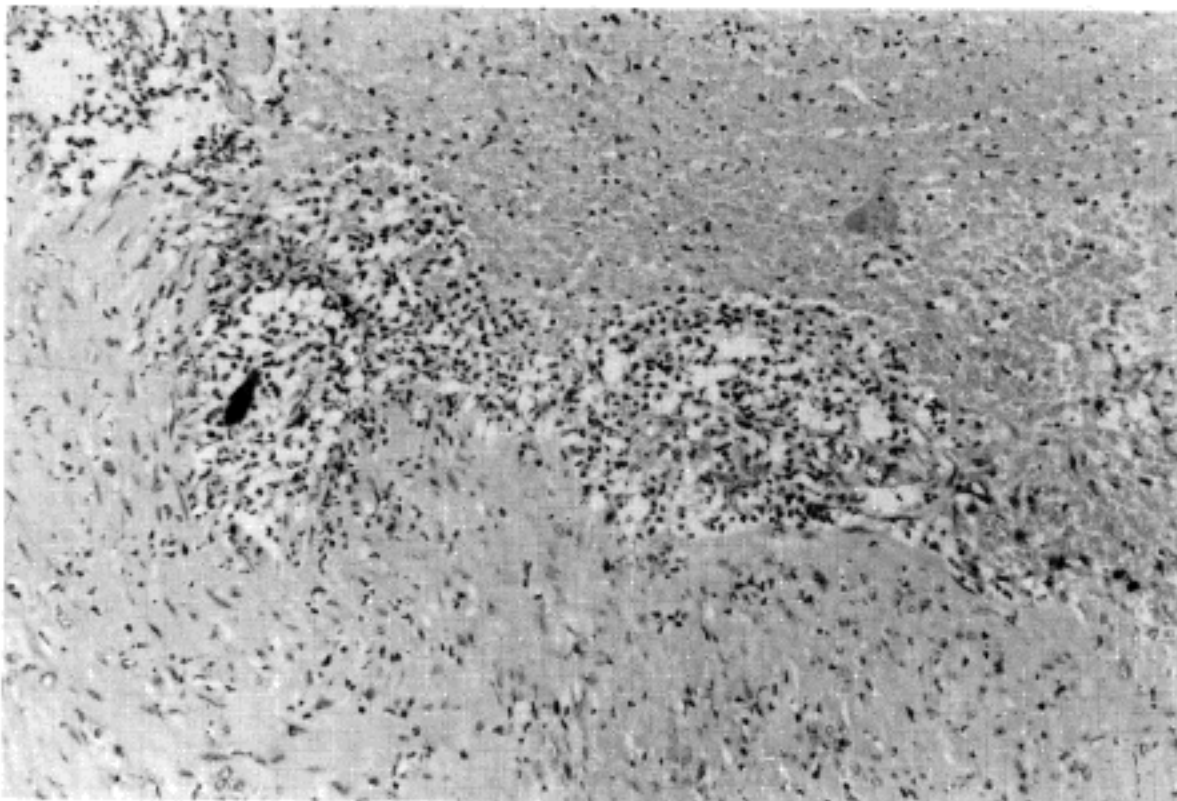


Fig. 2. The thrombus is composed of lymphocytes, plasma cells and epithelioid histiocytes. (H & E, x100).

The mass consisted of inflammatory swelling of the spermatic cord and epididymis. The testis appeared not significantly involved. Sections of the spermatic cord showed varying stages of occlusive thrombi in the small to medium sized arteries and veins of spermatic cord and epididymis(Fig. 1). Occasionally there were microabscesses within the thrombi(Fig. 2).

More commonly, however, the thrombi were composed of a mixture of lymphocytes, plasma

cells and epithelioid histiocytes, frequently giving a feature of granulomatous inflammation with giant cells of a Langhans' type (Fig. 3). Elastic—van Gieson stain for the elastic fiber revealed only partial disruption of the internal elastic membrane (Fig. 4). No granulomatous reaction was found in the media or adventitia. The involved vessel wall was thickened only by mononuclear cell infiltration and some fibrosis which extended to the perivascular tissue. There

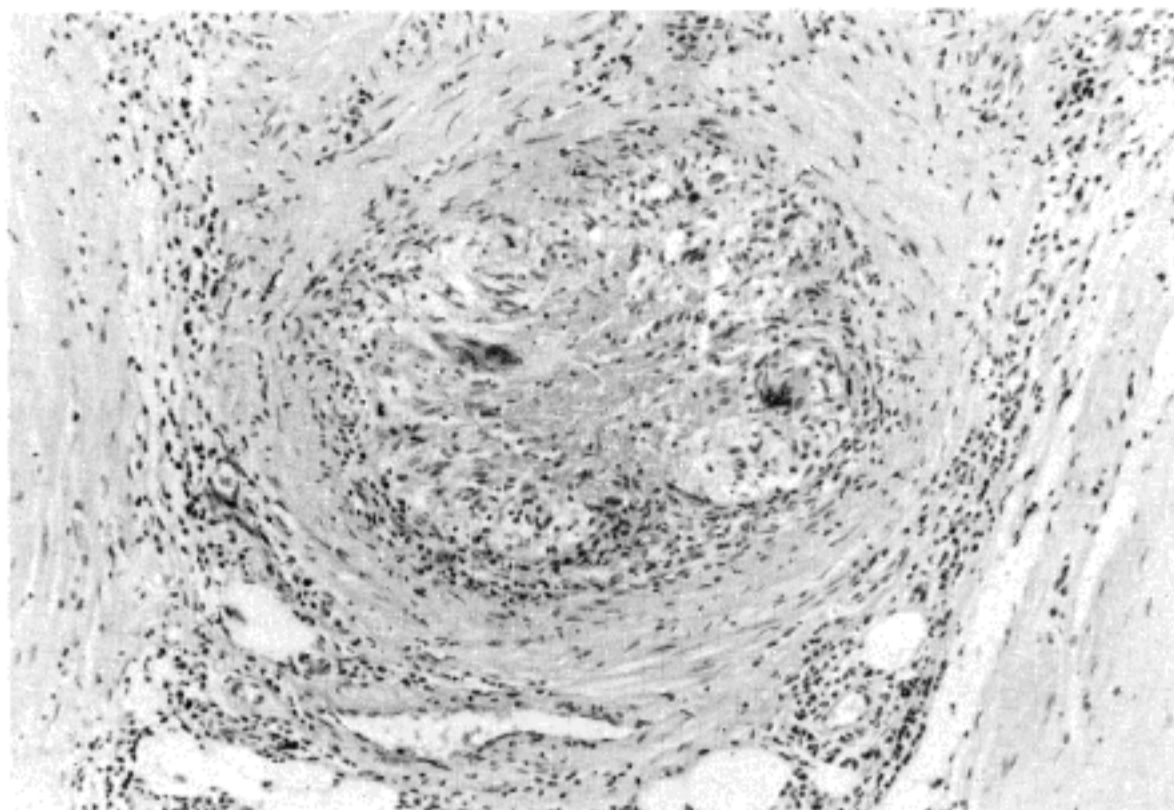


Fig. 3. Another Vessel shows well formed granulomatous lesion with giant cell of the Langhans' type in the lumen.

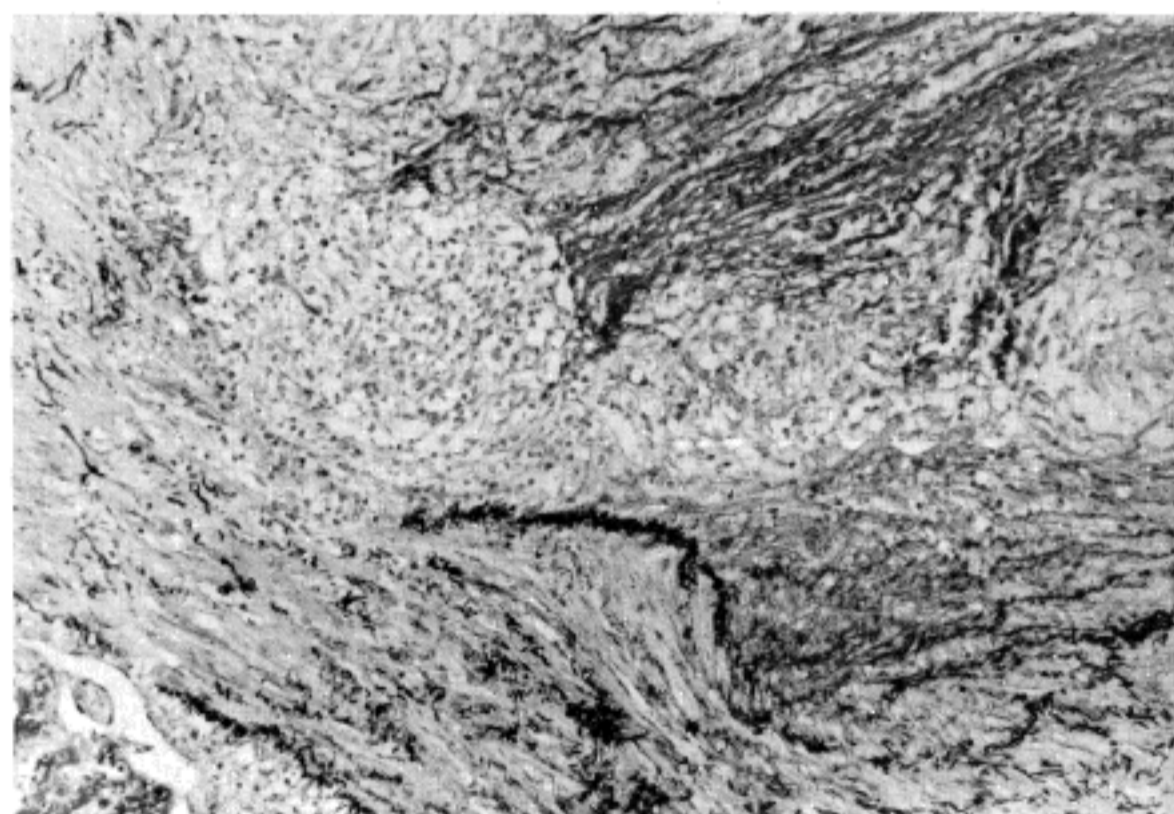


Fig. 4. Elastic stain revealed partial disruption of the internal elastic lamina. (Elastic van Gieson, x100).

was no fibrinous necrosis in or around the vessels,

DISCUSSION

Buerger's disease was first described by Leo Buerger in 1908¹⁾, and is characterized by occlusive thrombosis of an inflammatory nature and hence the term thromboangiitis obliterans has been alternately used. Vast majority of the cases affect

small to medium sized arteries of the extremities¹⁻⁴⁾.

But vessels of the head, heart and viscera could be the victim, and paratesticular Buerger's disease has also been reported several times^{2,4-6, 8-12)}. As in the present case, Buerger's disease occurs typically in young males particularly among heavy smokers and in paratesticular cases the left side is more commonly affected.

It is known that Buerger's disease is a remitting—relapsing disease, and thus it is possible to find lesions of different stages of chronicity within the same artery or different arteries. The acute stage is characterized by inflammatory thrombi, infiltration of polys in the vessel wall and sometimes microabcess within the thrombus. In subacute stage, mononuclear cells predominate and epithelioid granuloma with giant cells may be present within the thrombus.

The chronic stage is characterized by recanalization of the thrombus and progressive adventitial fibrosis with diminishing cellularity. The vessel integrity including the internal elastic membrane remains intact. The inflammation and fibrosis commonly involve the contiguous connective tissue and adjacent veins. The case under discussion revealed, as the predominant feature, histologic changes of the subacute stage with granuloma and giant cells of the Langhans' type. The patient's history of previous left leg pain, which was followed by subsidence, may indicate the remitting relapsing nature of the disease and suggests that his paratesticular lesion is not the only involvement. At a later stage the involvement may extend proximally to major arteries¹³⁾.

Buerger's disease must be distinguished from tuberculosis, sperm granuloma, vasitis nodosa, polyarteritis nodosa, and giant cell arteritis. The first three of the above are not primarily vascular disease, and can be excluded by elastic stain which delineates the vascular structure.

Similar to Buerger's disease, polyarteritis nodosa also affects small to medium sized muscular arteries and shows inflammatory exudates in and around the vessel wall. But fibrinoid necrosis is typically present in most of polyarteritis nodosa, and aneurysm formation may sometimes follow.

Giant cell arteritis is another major inflammatory and occlusive vascular disease. However, it affects medium to large elastic arteries of the

head, although it has been reported in some other areas. Fragmentation and destruction of the elastic lamina is believed to be the primary event of giant cell arteritis, and the granuloma with giant cells are found to be confined to the tunica media.

In Buerger's disease, thrombus itself might be the primary alteration and thus the inflammation and giant cells are seen mainly in the tunica intima and thrombus.

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==국문초록==

고환주위 연부조직에 생긴 버거씨병

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최수임 · 진소영 · 박찬일

Bureger씨병은 흡연력이 있는 젊은 남자에서 중소 크

기의 동맥이나 정맥에 나타나는 염증성 폐쇄성 혈관의 질환이다. 주로 하지에 국한되는 것이 보통이지만 드물게 두부, 심장, 내장 및 부고환도 침범될 수 있다.

환자는 34세 남자로 15일전부터 좌측 음낭에서 만져지는 압통성, 난원형의 종괴를 주소로 내원하였다. 환자는 럭비선수이며, 2년전에 무하지에 동통이 있었으나 저절로 사라졌다고 하고 하루에 2갑씩 10년간 담배를 피워왔다고 한다. 절제된 고환주위의 조직은 현미경적 검색상 정색과 부고환의 혈관에서 Buerger씨병의 소견을 보였다. 침범된 동맥과 정맥에는 주로 아급성의 병변이 있었고 혈전내에 Langhans형의 거대세포를 가진 만성 육아종성 염증을 나타내었다.