RARE LOCATION OF DRACUNCULUS MEDINENSIS INFECTION ON THE VULVA

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Infection with *Dracunculus medinensis* of the vulva is rare. It was clinically misdiagnosed as a neoplastic growth. It was characterised by an oval, firm, mobile swelling in the middle of the left labia majora. The cut surface showed white-coloured, thread-like, coiled-up adult parasite embedded in the central portion of the growth. Histopathology showed transverse and obliquely cut sections of the adult parasite surrounded by a dense fibro-collagenous stroma, infiltrated by lymphocytes, plasma cells and a few eosinophils.

Key words : Dracunculus medinensis, Vulva.

The guinea, medina, serpent or dragon worm has been known since ancient times. It is thought that the "Fiery Serpents" which plagued the Israeletes by the Red sea were *Dracunculus;* the disease which they cause was recognised by Galen[1] (130 to 200 AD). Its morphology was first described by Bastian in 1863 and its larval existence in cyclops was observed by Fedtschenko[2] in 1869.

The gravid female migrates and selects only those parts of the skin which are liable to come in contact with water. Thus, the back of the water carrier, arms and legs of washermen, and legs of those who fill water in their containers in stepwells and ponds are common sites. The infection is usually located in the subcutaneous tissue. The common clinical manifestations include, an ulcer, sterile abscess, and a subcutaneous nodule.[1] The present case is unusual because of its site, presenting as a tumour on the vulva.

Case Report

A 25-year-old married female resident of Nagpur district of Rajasthan state was admitted for a gradually increasing swelling on the left side of vulva for the last one month. She also had dull ache off and on in the swelling with excessive whitish discharge per vaginum. There was no past history of guinea worm infestation.

She was average built, normal, healthy lady. Routine blood counts and urinalysis were normal.

The swelling in the middle of left labia majora was 5×3 cm in size, firm in consistency and freely mobile.

Cut surface of the excised swelling was reddish pink in colour, with whitish thread-like coiled-up material embedded in the tissue in the central portion of the mass (Fig. 1). Microscopically, it showed a coiled up parasite in the centre, separated by dense fibro-collagenous stroma infiltrated by chronic inflammatory cells, chiefly lymphocytes, plasma cells and a few

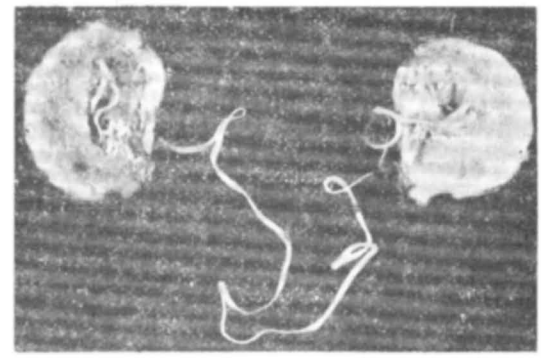

Fig. 1. Gross bisected specimen from the vulva showing thread-like coiled-up parasite embedded in the centre.

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Fig. 2. Transversely and obliquely cut parasite surrounded by dense fibro-collagenous stroma with chronic inflammatory cellular exudate, comprising chiefly of lymphocytes, plasma cells and eosinophils (H & E stainX80).

eosinophils. The surrounding tissue was also showing dense fibro-collagenous stroma which was highly vascularised (Fig. 2).

Comments

Dracunculus medinensis infection is extensive in the western Rajasthan and South India, besides western Nigeria, Arabian countries, like Jordan, Iraq, Iran, Pakistan, Afghanistan and Indonesia. It apparently no longer occurs endemically in the western hemisphere.[3] Infection with guinea worm (*Dracunculus medinensis*) is a common, and neglected cause of disability in the rural areas of Africa, South-West Asia and India, where the people still rely on ponds or wells for their drinking water.[4]

In the simplest course of the disease a mature female worm (about 70-80 cm long) lies subcutaneously in the tissues, usually of the feet or legs, provoking the formation of a small blister causing burning sensation at its anterior end. This bursts, extruding about 5 cm of the worm from the resulting ulcer, particularly following immersion in water. After about 4 weeks, once the complete worm has been eliminated, the ulcer heals rapidly. However, dracontiasis can be an incapacitating disease because of the tissue reaction. The parasites may provoke severe cellulitis when the worms are damaged in the tissues, resulting in permanent disability from fibrous ankylosis of the joints, or contracture of the tendons. Secondly, infection along the track of the worm in the connective tissue, is also very common. It is an unusual parasite in that the same persons may be reinfected year after year without developing any immunity to reinfection. The larvae require development for a period of about a fortnight in a fresh water microcrustacean, cyclop, before the disease can be transmitted to a new host through ingestion of infected cyclops in drinking water. Suitable conditions for the infection occur only where water for drinking is taken from the stationery water in the ponds, large open wells with steps leading down to the water as found particularly in India. Step-wells, however, which provide the main source of drinking water in many rural areas of India, are ideally suited for *Dracunculus* transmission.[4] Infection is limited to the tropical and subtropical regions, because the larval infection develops best between 25° and 30° C and will not develop at all below 19°C.

Dracunculus medinensis is the longest nematode causing infection in man. The female wanders in deeper tissues and thus it may appear in the subcutaneous tissue of the lower extremities, upper extremities, back, breast, inguinal region, scrotum and knee joints.

The stored water in our case was obtained from the village ponds, and was probably contaminated with cyclops. There are chances that she had used contaminated water for drinking. The parasite having migrated to the vulva could not come in contact with water and long continued stay of the parasite in the vulva resulted in marked fibrosis. Interestingly, no case has been reported to occur at the vulva previously.

References

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