DIAGNOSTIC VALUE OF MICROFILARIAE SEARCH IN HYDROCOELE FLUID

(A negative report)

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The statement is made in one standard textbook of Tropical Medicine that "Microfilaria may sometimes be demonstrated in fluid aspirated from a hydrocele". The present study was to determine the incidence of "sometimes" and the value of this diagnostic technique in an endemic filarial area.

A total of 106 consecutive cases were included in study. Most were in-patients and from the Kathmandu Valley. All but a few had both eosinophil counts and night blood-studies. A total of 12 patients had microfilariae detected in their hydrocele fluid. This group differed only slightly from the negative group in their younger age distribution (see table 1). Of the three older "positive" "patients" one gave a history of ten, another eight years, while the duration of third was not recorded.

The eosinophil count, as noted by others, is unreliable as even a screening test for the infestation (see case 2). It is even less reliable because of the high local incidence of intestinal parasites (66% among our patients).

Table I.

AGE	Under	30.	Pos.	Neg.
		30.	6	29
		40	3	26
		50		17
		60	2	16
		70	1	15
		80		3

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Table II.

EOSINOPHILIA		Pos.	Neg.
Under 9%		7	63
10-19		5	27
20's			4
over 30			1

The laboratory technique upon receipt of the fresh fluid from the operating room was to centrifuge the entire specimen, or minimum of 30 mls. if the specimen was a large one, and to examine the unstained, wet sediment at 100 x magnification.

Addition of formalin and also filtering was tried on a few specimens but neither proved advantageous. There might be some merit in adding anticoagulant (sodium citrate 0.1 gm./100 mls) to the specimen in the operating room.

Four brief case histories illustrate a few interesting findings;

K. H. (021123), 60 years old from Sanepa. Had thyroidectomy for follicular carcinoma. No suspicious scrotal skin thickening. 13% eosinophilia but hookworm present. 250 mls, aspirated from right hydrocele, and 25 mls. from left. The latter was positive, the former not. Night blood also positive.

This was the only case in which the two sides of the hydrocoele gave conflicting results.

L. B. M. (012324) 39 years old from Kirtipur admitted with anasarca, no BP nor pulse, and a two month history of fever, abdominal and chest pain, and nausea. Eosinophilia 1%. Post-mortem examination reviewed at the London School of Hygiene and Tropical Medicine, revealed "filariasis (almost certainly *W. Bancrofti*) with microfilaria in the vascular system of many organs, particularly the lungs... Surprisingly there are very few microfilaria in the capillaries... (with) lymphnodes from the adipose tissue near a coronary artery... would very strongly suspect a lymphostasis by filarial worms which has affected the heart." Microfilariae were also indentified in the liver and kidneys.

This is a rare case of fatality from filariases.

J. B. M. (014714). A 30 years old from the Kathmandu Valley admitted with a two week history of fever and clinical epididymo-orchitis, admission eosinophilia was 1, but 3 days later had risen to 15; stool negative for parasites, Night blood on admission was positive. Eight ccs of hydrocele were aspirated at the end of the week, and this small collection was also positive.

Assumed to be the earliest case in our series.

Discussion. Hydroceles are common in non-filarial areas also. Campbell² reports an incidence of 1% of all male admission in American general hospitals. The 12 positive results

by this method compared with an 8% figure for night blood drawn over the same period on both in-patients and out-patients. The later were not all random for some were on patients in whom filariasis was a diagnostic possibility.

Although in case 1, one hydrocele sac was "negative" when the night blood was "positive". We never had a patient with a positive night blood and negative hydrocele fluid. In contrast, in two young men of 22 and 23, we did have a positive hydrocele fluid with a negative night blood.

The absence of living microfilariae in filarial lymphostasis of the hydrocele sac has been previously recognised as the rule, rather the exception (as in our series). Campbell³, in an endemic area in Puerto Rico, never found live filaria. This failure, which develops in the evolution of the disease, drastically reduces the testis value. Campbell distinguishes chylocoeles (when a lymph varix has ruptured into the tunica vaginalis).

Recent⁴ visual and radiologic lymphography in the normal patient and idiopathic hydrocele demonstrate normal lymphatic trunks to lumbar nodes L1 to L4 and to iliac lymph nodes. In the hydrocele group, the "normal lumbar pathway" was demonstrated in most cases; however, the iliac route could not be shown, suggesting impairment of lymph drainage.

In the early part of our series, prior to receiving the laboratory report, a clinical impression was recorded "positive or negative". With the exception of the fatal anasarca, these were invariably incorrect presumably because the clinically suspicious cases had often reached the "burned out" phase of lymphostasis.

Conclusion: A study of 105 consecutive cases of hydrocele fluid were observed to determine the diagnostic value of examination of hydrocele fluid for microfilariae in this endemic area. 12 positive cases were found two with a negative night blood. The test is possibly marginally more accurate than night blood, particularly in the young patient with a brief history of pathology. Because it is a significantly more time consuming laboratory procedure than the night blood examination, it is not the procedure of diagnostic choice.

Reference :

1. Hunter, Frye and Swartzweller; A Manual of Tropical Medicine; WB Saunders, London, 1966; p 468.
2. M. Campbell; Urology; WB Saunders, London 1957; p. 707
3. Ibid: p. 573
4. Michael P. McBrien, Edwards, and Kinmonth, Arch Surg/Vol 104; P. 820-5.

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