

the increase, and when it is remembered that the sera of some 16% of the population contain anti-P it will be realized that it is a matter of great importance that those whose serum contains antibody of this type should not be transfused with blood that will lead to their developing potentially dangerous immune antibody.

Summary

A case of naturally occurring anti-M agglutinin in the serum of an Rh-negative woman is described.

The antibody was erroneously assumed to be anti-D, and a bottle of group M Rh-negative blood, cross-matched by a rapid technique at 37° C., was supposed to be compatible. The blood was not transfused.

The potentially dangerous nature of antibodies of this type and their relationship to cross-matching techniques are discussed.

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NON-BANCROFTIAN ELEPHANTIASIS IN TANGANYIKA

BY

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A filarial survey of Tanganyika has recently been completed. During this work night blood samples were taken from several thousand Africans in order to determine the distribution of *Wuchereria bancrofti* infection. In addition to taking blood slides the incidence of elephantiasis was noted in the different areas visited, and, generally speaking, more cases of elephantiasis were seen in those areas where bancroftian microfilariæmia was common than in those areas in which it was rare.

In one locality, however, in which night blood slides were all negative for microfilariae of *W. bancrofti*, elephantiasis indistinguishable from bancroftian elephantiasis appeared to be not uncommon.

The area involved lies south-west of Lake Victoria, and is between 4,000 and 6,000 ft. (1,220 and 1,830 metres) above sea-level. In this area night blood samples were obtained from 475 adults in four villages in Bukoba, Biharamulo, Ngara, and Kibondo Districts. All were found to be negative for microfilariae of *W. bancrofti*, though 12 of the 475 persons had elephantiasis of one or other legs. From other villages in Tanganyika which were found to be free of bancroftian infection—or in which the incidence of microfilariæmia was less than 5%—6,866 night blood specimens were obtained and only eight cases of elephantiasis were seen.

The higher incidence of elephantiasis in the four districts mentioned above suggests that the disease in this part of Tanganyika is caused by something other than *W. bancrofti*.

One of us (M. H. T.) revisited the area and found 62 further cases of elephantiasis. This figure excludes any person who had travelled to a known bancroftian area and cases for which any obvious cause for elephantiasis could be found—that is, leprosy, tropical ulcer, and oedema due to other conditions. A total of 74 persons were thus seen in this area. Onchocerciasis does not occur in the area.

Clinical Manifestations

During the filarial surveys throughout the territory, 259 cases of elephantiasis were seen in areas in which bancroftian infection was endemic, and in Table I certain clinical manifestations observed in this series have been compared with those in the non-bancroftian series. The age incidence of the two series is shown in Table II, and it will be seen that the disease occurs at a slightly earlier age in the non-bancroftian series.

TABLE I.—Clinical Manifestations of Bancroftian and Non-Bancroftian Elephantiasis

	No. in Series	Unilateral Disease	Inguinal Adenitis	Hydrocele Present
Bancroftian	259	55%	60%	40% of 147
Non-bancroftian	74	20%	39%	6% „ 35

TABLE II.—Age Distribution of Bancroftian and Non-Bancroftian Elephantiasis

	20 and Under	21-30	31-40	41-50	51-60	61 and Over
Bancroftian	6%	12%	26%	28.5%	19.5%	8%
Non-bancroftian	6.9%	29.8%	25.8%	15.9%	10.8%	10.8%

Histories obtained from persons with non-bancroftian elephantiasis suggest that the condition usually started with pains in the groins and frequently fever, but the pain does not appear to have the centrifugal distribution sometimes seen in cases of filarial elephantiasis. In the established case recurrent attacks of pain in the groin were reported.

Discussion

The high incidence of bilateral disease and the low incidence of inguinal adenitis in the non-bancroftian series suggest that if lymphatic blockage is responsible for the elephantiasis it may be higher in the lymphatic system than in the inguinal glands. This would place the possible obstruction in the iliac glands or in the para-aortic nodes. It is unlikely that obstruction occurs at the latter site, since numerous anastomosing lymphatic vessels connect up these glands; and obstruction, sufficient to cause lymph stasis in the legs, would probably lead to other evidence of blockage—namely, elephantiasis of the scrotum and lymphocele, and this was present in only 2 out of 35 males.

Although *Acanthocheilonema perstans* is not generally accorded a pathogenic role, it is worthy of note that infection with it is very common in the area in which this series of cases was seen (145 of the 475 bloods had microfilariae of *A. perstans*). The adult worm lives in the peritoneal cavity of the host, and it is not unreasonable to postulate that on occasion the adult—or embryos—may inadvertently enter abdominal lymph nodes, and, being in an abnormal site, initiate tissue changes leading to lymph blockage. Enzer (1928) found microfilariae of *A. perstans* in gland punctures in persons with enlarged femoral glands, and Sharp (1928) was unable to satisfy himself that the worm was not responsible for cases of elephantiasis.

Other reports of non-bancroftian elephantiasis elsewhere in East Africa describe the condition in the Kampala area of Uganda (Loewenthal, 1934). No cause could be found

for these cases. The endemic focus of *A. perstans* infection noted above extends round the north of Lake Victoria and includes the Kampala area (Hawking, 1940). The cases described by Loewenthal had a verrucose condition of the feet, and Clark (1948) reported a series of elephantiasis cases with this verrucose condition from the area round the Aberdare Mountains in Kenya. There are no reports of *A. perstans* or *W. bancrofti* occurring in this area.

The velvety appearance of the skin was seen in many cases of elephantiasis of filarial and non-filarial origin. It is not regarded as a clinical entity (Strong, 1944), but appears to complicate elephantiasis of varied aetiologies. Jelliffe (1951) reported the condition in elephantiasis of tertiary yaws.

No detailed pathological investigations were possible in any of the cases, and no post-mortem material has become available for study. Until such studies can be made the true nature of the causative agent must remain a matter for conjecture.

Summary

A series of elephantiasis cases seen in an area free of bancroftian filariasis to the south-west of Lake Victoria is compared with a series of cases of elephantiasis of bancroftian origin. The possibility of these cases being due to *A. perstans* infection is discussed, and other reports of non-bancroftian elephantiasis in East Africa are noted.

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PROLONGED ACTIVITY AND MOVEMENT AFTER A PENETRATING STAB WOUND OF THE HEART

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The traditional belief dies hard that penetrating wounds of the heart are necessarily fatal, either immediately or within a very short period of time. This does apply, of course, to many heart wounds, but surprising instances of prolonged survival and even recovery are by no means uncommon. Even when the victim is already dead when found, experience teaches the need for caution before it is accepted that death was necessarily rapid or that the individual must have been immediately rendered incapable of voluntary, purposeful activity.

The question is of practical importance from a medico-legal point of view, for if a person has remained capable of movement after heart (or other) injuries, that becomes a very essential factor in the proper reconstruction of events. It can explain an otherwise unaccountable or misleading discrepancy between the proved locus of an assault and the situation of the body when found. It may dispel or confirm suspicions of homicide, or provide grounds for a legal distinction between murder and manslaughter.

Case records illustrating these points will be found in various textbooks of forensic medicine, and they show clearly that a considerable range of activity is possible after penetrating wounds of the heart that are severe and ultimately fatal. Smith and Cook (1948) instance a man stabbed in the right ventricle who ran 18 yards (16 metres) before collapsing, and died six hours later; Glaister (1950) records the case of a young man, with a stab wound penetrating the left ventricle, who pursued his assailant for some 40-50 yards (37-46 metres) before collapsing and dying; Gonzales *et al.* (1954) quote the case of a man who, after being stabbed in the heart in the street, crossed the roadway and climbed two flights of stairs to his apartment, where he collapsed and died.

Along with such examples, the following case is worthy of inclusion because of the unusual extent of the victim's movements after receiving a severe stab wound of the heart.

Case Report

The stabbing occurred in the course of a fight between two youths outside a dance-hall. The weapon used was a small sheath-knife, having a single-edged blade only 2½ in. (6.3 cm.) long, with a maximum width of 7/16 in. (1.1 cm.), and a sharp dagger-like point.

The fatal wound penetrated the chest immediately to the left of the xiphisternal junction. The wound in the skin was ½ in. (1.3 cm.) in length, gaping slightly, and consistent in appearance with the passage of a single-edged stabbing weapon. The underlying wound in the chest wall, which cut through the seventh costal cartilage and adjoining muscle, measured ¾ in. (2.2 cm.) in length, and passed inwards, upwards, and medially.

Inside the chest, the wound penetrated direct into the pericardial sac and into the anterior wall of the heart. The stab entered the upper part of the right ventricle in front, and penetrated through the ventricular wall and through the anterior cusp of the tricuspid valve. The point of the knife had then passed through the valve orifice and pricked the wall of the right atrium without penetrating through it. The cut in the pericardium was 1 in. (2.5 cm.) long; in the ventricular wall and in the valve cusp it measured ½ in. (1.3 cm.). The total depth of penetration was 2½-3 in. (6.3-7.6 cm.), and the complete severance of the rib cartilage indicated the use of considerable force. The pericardial sac was full of blood, fluid and loosely clotted. No blood was present in either pleural cavity.

The time of the stabbing could be fixed with comparative certainty at about 12.20 a.m. A few minutes later the victim was seen lying on the ground at the locus and heard moaning by two women passers-by, who took no action, as they thought the man was drunk. Thereafter he got to his feet and actually exchanged a few remarks with a youth who had emerged from the dance-hall, and who, though he may not have known it, was a companion of his assailant. He then made his way unaided into and along a main street, where his progress was observed by three persons separately. One remarked that he was holding his stomach and walking in a bent attitude; another saw him leaning against a doorway for a time; while the third spoke of his unsteady and tired gait. All three assumed that the unfortunate man was drunk.

From the route taken and from a remark which he made to the youth mentioned above, it would appear that his intention was to make for the police station, situated 500 yards (460 metres) from the scene of the assault. It may be that he became mentally confused or simply that he was uncertain of its exact location, but, at all events, he went past the gate leading to the police station, and was found collapsed and unconscious on the pavement 100 yards (91 metres) further on at 12.45 a.m. He had therefore travelled unaided for a total distance of 600 yards (550 metres) in about 20 minutes.