

Physical drill instructors, masseurs and masseuses, X-Ray attendants, electricians, bath attendants, carpenters, leather workers, metal workers (blacksmiths), men skilled in splint and appliance making,—all are specialists on the subordinate staff.

Training School.—In addition to the permanent staff there are a variable number of medical officers attached for training and duty. These take charge of cases as ward medical officers and follow them through the different departments, being specially instructed in each. For other attending medical officers classes and demonstrations are held. Medical officers from the front "on leave" should, if possible, have a fortnight additional to spend in an orthopædic hospital. When other hospitals are slack, their medical officers can be sent for training.

The training school idea is carried out through all grades of the hospital staff. In all the special departments are pupils: also some intelligent patients learn while being treated and help in the treatment of others.

Conclusion.—The principles of military orthopædics may be summarised as early diagnosis and early continuous treatment in large, specially staffed and specially and completely equipped hospitals. This paper has only dealt with the surgical aspect of the subject, but it is to be recognised that there are a large number of medical cases which benefit by treatment in orthopædic hospitals. The views which have been expressed are doubtless accepted by many, but if they are universally conceded, there will result a consensus of professional opinion which only the profession can evolve and no amount of orders and regulations can produce, which will materially aid and support administrative action. It is to help to bring about such opinion that this paper is written.

The motto of the orthopædic hospital is "Patience and Perseverance." The hospital opens the door of Hope to the disabled and sends to the army and, happily it is to be hoped, later to their own homes and occupations many who, but for its beneficent treatment, would have remained for the rest of their lives maimed pensioners in their country's service.

THE SYPHILITIC FACTOR IN AORTIC INCOMPETENCE IN BENGALIS.

BY J. T. CALVERT, M.B., F.R.C.P.,

LIEUT.-COL., I.M.S.,

Principal, Medical College, Calcutta,

AND

W. D. SUTHERLAND, M.D.,

LIEUT.-COL. I.M.S.,

Imperial Serologist.

DISEASES of the heart and of the arteries (arterio-sclerosis and aneurysm) are almost as

common in Calcutta as they are in London. A brief consideration will show that this must be so. To begin with all forms of congenital defect are as frequently met with as in England, and although scarlet fever is unknown and rheumatic fever not very prevalent, all the other specific infectious diseases of cold climates are met with, in addition to those peculiar to the tropics. As regards the prevalence of rheumatic fever in Calcutta, there has been some misconception in the past, which are however excusable. Rheumatic fever is a disease of children and young adults. In Calcutta there is no separate children's hospital, until lately no children's wards even, and the young of both sexes are usually treated at home by homœopaths, kabirajes or hakims. Still we have met with young Bengali children suffering from rheumatic chorea with endocarditis (mitral), with rheumatic fever with fibrinous nodules and endocarditis, and with rheumatic fever with well marked pericarditis and effusion. The cases of heart disease commonly met with in the wards occur in adults, and the form most frequently encountered is incompetence of the aortic valves. The most important cause of this condition amongst Indians is syphilis. To ascertain in what proportion of these cases the spirochæte was present, this enquiry was undertaken. The figures refer to patients admitted into the first physician's wards only, and cases occurring amongst Europeans, Anglo-Indians, Armenians, Jews, Goanese, Chinese, etc., are excluded; as are also those Indian in whom for some reason the Wassermann reaction could not be tested.

Age.	Caste.	Sex.	Wasser-mann.	REMARKS.	
				Hist. of Syphils.	Hist. of Rheumatic Fever.
1 45	H	M	+		
2 48	H	M	++		
3 42	M	M	+		
4 43	M	M	+
					P. M. Sclerosis of Aortic Valves. Sclerotic changes in Aorta.
5 30	M	M	-		
6 35	H	M	+		
7 55	I Ch	F	-		
8 30	H	F	++		
9 45	I Ch	M	+++
				Yes	P. M. Aortic Valves thickened and sclerosed. Marked Atheroma of Aorta.
10 30	M	M	-		
11 38	H	M	-	..	Yes
					Rh. Endocarditis.
12 51	H	M	-		
13 30	H	F	++		
14 27	H	F	+ slight	..	Yes
					Rh. Endocarditis.

Age.	Cast.	Sex.	Wasser-mann.	Hist. of Syphilis.	Hist. of Rheumatic Fever.	REMARKS.
						Yes
15	19	H	M	+ slight	...	Rh. Endocarditis.
16	30	H	M	+++	Yes ..	P. M. Aortic Valves sclerosed. Extensive Atheroma of Aorta.
17	32	H	M	+++	Yes	P. M. Aortic Valves partly incompetent. Cusps thickened andatheromed. Atheroma of Aortic Aid.
18	38	H	M	+++	...	
19	45	H	F	-	...	
20	55	H	M	+++ slight	...	Rh. Endocarditis.
21	33	M	M	+	Yes	
22	45	H	M	+	Yes	
23	30	H	F	++	Yes	
24	33	H	M	+++	Yes	
25	24	H	M	++	...	Malignant Endocarditis.
26	24	H	M	-	Yes	
27	45	M	M	-	Yes	
28	15	H	M	++	Yes	
29	41	M	M	+++	Yes	
30	37	M	M	+++	Yes	
31	32	H	M	+++	Yes	
32	30	M	M	+++	Yes	
33	32	M	M	+++	Yes	
34	45	H	M	+++	...	
35	33	H	M	-	Yes	
36	28	H	M	-	Yes	

Remarks.—Wassermann reaction: Of the 36 cases examined 26 or 72·2 gave a positive and 10 or 27·8 a negative reaction. Of the 26 positive cases 12 or 46 p.c. were strongly, and 14 or 54 p.c. moderately or slightly positive. Seven cases gave a history of rheumatic fever and of them 4 were Wassermann positive and 3 negative. Of the 36 cases 24 or 66·7 p.c. were Hindus, 10 or 27·8 p.c. Mahomedans, and 2 or 5·5 p.c. Indian Christian. Again 30 or 83·3 p.c. were males and 6 or 16·7 p.c. were females. It is not maintained that in all the Wassermann positive cases the lesion was due to syphilis, but we hold that in all of them syphilis was probably an important, and in the majority the dominant, factor of the case. In every case of aortic incompetence whatever the previous history may be, we deem it advisable that whenever possible the Wassermann reaction should be tested, both with a view to treatment and prognosis, for if it can be established that the patient has got a syphilitic heart, then in our experience whatever treatment be adopted the prognosis is extremely grave.

Note by W. D. S.—As is well known, the intravenous administration of organic compounds of arsenic, such as galyl and novarsenobenzol is contra-indicated in advanced cardiac and arterial disease. Hence it was not possible to give a provocative injection to those cases in which the

W. R. was negative. Otherwise it is likely that some of the negative results would have become positive. The actual figures then may be taken to be well within the truth as regards the percentage of cases in which lues was the cause of the condition.

NOTES ON CASES TREATED WITH RADIUM.

BY J. C. VAUGHAN,

L.T.-COL., I.M.S.,

Civil Surgeon, Ranchi.

THE employment of radium in therapeutics dates from the latter part of the year 1901, when Danlos first employed it in the treatment of cutaneous tuberculosis. Then, somewhat later, Foveau de Courmelles used it, showing its power in allaying the pain in deep-seated cancer. Wickham and Degrais and others followed, but the first "Therapeutic" effect of radium ever noted was the famous "Becquerel burn."

The therapeutic uses of radium have of late aroused a wider interest, and the following few cases which are among the earliest if not the first published in India have, I trust, some interest.

The radium apparatus I have employed has consisted of two Dominici platinum tubes,—each containing 5 m.g. of pure radium sulphate. The walls of these tubes are 0·5 m.m. in thickness;—my total amount of radium has therefore been only 10 m.g.

CASE No. 1.—Papillomatous growth on dorsal aspect of sulcus above glans penis. This was twice removed in the previous 9 months. Excised for the third time and immediately after two radium tubes placed in the wound for 25 minutes without further screening. Application repeated on the two following days; no return of growth observed; patient last seen fifteen months later without any return of growth.

CASE No. 2.—A European lady, aged about 23; an adenoma in breast prior to marriage; removal refused. After marriage growth became uncomfortable; first shown to me when about $7\frac{1}{2}$ months advanced in pregnancy. Growth then a little tender, rather bigger than the body of a large tea-spoon; later on breast inflamed and suppurated and had to be incised. This opportunity taken to bury two radium tubes into mass of the growth for 72 hours continuously. A few days after patient left for Home with instructions to have breast amputated on arrival Home, as she had declined any operation in India. On arrival Home surgeons declined operation as there was no tumour to operate for, patient seen here 10 months after—no growth to be found.

CASE No. 3.—European lady upset a pot of tea on to her knees; result—very extensive keloids in branching lines about 11 inches long over total length on one leg just above knee, and about 7 inches long on the other leg. Keloid growth very painful, so much so that she could not keep standing up for her ordinary occupations without great pain. Treated with radium application of two tubes for 8 to 12 hours continuously over each part that could be covered by the tubes. The entire keloid was thus treated in sections as it were, the