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SUBCUTANEOUS RHEUMATIC NODULES.

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Among the rare manifestations of rheumatism are to be classed the development of fibrous nodules in the subcutaneous tissues—rare, however, only in adults, as children seem to be peculiarly prone to their development.

Some years ago the committee on the collective investigation of disease, of the Medical Society of the State of Pennsylvania, sent out two thousand inquiries requesting information regarding rheumatism and its many and varied manifestations, and, as an illustration of the rarity of the condition that we are considering, but seven instances of the occurrence of rheumatic nodules were noted.[1] In my own experience of over two thousand cases of rheumatism observed in the city of Philadelphia, I have never seen an illustration of it.

The case which forms the text for this communication was admitted to the San Diego County Hospital, Sept. 1889,[2] and has been rheumatic for many years. The nodules are four in number, and are situated as follows: one in close proximity to the second joint of middle finger of right hand, another just below the left internal malleolus, and one below the left elbow joint, and another three inches below it. They were slow in development, painless, but in two instances were in close proximity to painful joints, which were red, tender, and swollen. The nodosities were not at all tender, but were firm, elastic, movable and quite subcutaneous; they were all about the size of the ordinary chestnut. There were no murmurs, dilatation nor hypertrophy; the arteries were somewhat stiffened, but the man was quite 55 years old.

A better description cannot be given than by quoting Howard's[3] abstract of the statements of Barlow and Warner[4]: "The nodules may vary in number from one to fifty, and in size from that of a pin's head to the volume of an almond, and are subcutaneous, firm and elastic, painless, and freely movable. They are not usually attached to the skin, but to the tendons, deep fascia, pericranium, periosteum, etc.; the integument over them is free from heat, redness, and infiltration, although, exceptionally, tenderness on pressure and slight redness may exist over them. They are found most frequently on the back of the elbow, the malleoli, and margins of the patella, but occur occasionally on the extensor tendons of the hand and foot, the scapular spine and iliac crest,

[1] Report of Com. on Col. Investigation of Disease. Edwards, Soc. Trans. 1886.
[2] I am enabled to report the case through the courtesy of Dr. J. P. Lefevre, Physician to the Hospital.
[3] Pepper's System of Mdicine, vol. ii. p. 43.
[4] Transactions International Medical Congress, Lond. vol. iv. pp. 116-128, 1881.

the temporal ridge and superior occipital curved line, the ear, etc. These nodules occur singly or in clusters, and are often symmetrical ; they are very rapidly developed in crops or in succession, and last sometimes for a few hours, more frequently from three or four days to four or five months, or even eighteen to thirty months. The original formations may disappear, and be succeeded by fresh ones ; and sometimes when no longer perceptible by touch, they may be found post mortem. Their development is unattended by pyrexia, unless pleuritis, pericarditis, or other conditions coexist to which the pyrexia might be referred. These nodosities do not appear to suppurate or ossify, or become infiltrated with urate of soda, and, histologically, they resemble organizing granulative tissue."

There can be no question of the intimate relation that these bodies bear to the rheumatic condition. Barlow and Warner[1] found evidences of rheumatism in 25 out of 27 cases ; in all of the 27 cases the heart was affected, and 10 presented chorea. Barlow,[2] in a later communication, further remarks that there was some morbid condition in every one of the 27. The association of erythema marginatum and subcutaneous nodules has also been noticed, indeed it has been demonstrated that there is a certain histological relation between these nodular formations and the vegetative formations upon the cardiac valves in cases of rheumatic endocarditis. Recently Money has found in a case of rheumatic nodules, where there was extensive pericardial adhesion, a distinct node invading the heart substance extending from the pericardium inwards. The presence of these nodules and their association with rheumatism has also been noted by Hillier,[3] Jaccoud,[4] Froriep,[5] Sauvage and Chomel,[6] Troisier and Brock,[7] whose paper contains a short bibliography, Mackenzie and Dyce Duckworth[8]. Cheadle[9] has also observed two adult cases, in one of which the nodules were very numerous.

The selective site of these nodules in the fibrous tissues, their constant association with rheumatic manifestations, particularly with heart disease, and furthermore their liability to spontaneous disappearance, and their tendency to recurrence and relapse, leave but little doubt of their true nature. Cheadle, in his most recent communication upon the subject already referred to, indeed, goes so far as to state that their chief association, in children at all events, is with endocarditis and pericarditis ; it is his experience that they seem to appear concurrently with the endocardial inflammation, and when they are numerous and recurrent are to be considered of grave import ; during the last few months he has observed " four cases in which plentiful and persistent evolution of nod-

[1] Loc. cit.
[2] British Medical Journal, Sept. 15, 1883, p. 511.
[3] Cheadle, Keating, Encyclop. vol. i. p. 801.
[4] Path. Interne. ii. p. 546, 1871. Howard, loc. cit.
[5] Die Rheumatische Schwiele, Weimar, 1843.
[6] Howard, Ibid.
[7] Rev. de Médicine, t. i. 297-308, 1881.
[8] Clin. Soc. Proceedings, Lond. vol. xv. 1883
Loc. cit.

ules in almost continuously successive crops has proceeded *pari passu* with progressive endocarditis and pericarditis to a fatal issue. The eruption of subcutaneous fibrous nodules, then, in any case, whether of recognized rheumatic arthritis or chorea or erythema marginatum, or appearing alone, must be regarded not only as a sign of the existence of a rheumatism in some form, but also as gravely suggestive of the coexistence of endocarditis, and that a similar change to that observed in the fibrous tissues beneath the skin may be proceeding unseen in the cardiac valves." Histologically, these nodules consist of fibrous tissue, they may have abundant vessels or be slightly vascular, they rarely occur in the vicinity of a joint which is actively inflamed, or contains an effusion.

The accompanying table will serve, in a concise manner, to illustrate the general characteristics of a rheumatic who presents the nodular formations; it is compiled from my report to the State Society,[1] but is unfortunately silent in four of the cases as to the condition of the heart.

Addendum.—Just as this paper is finished, another case has come under my observation.

Miss K. T., æt. 27, a native of Ceylon, the daughter of English parents; father was an officer in the English army, and died of dysentery in Ceylon; mother died of phthisis. Patient came to San Diego two years ago, and to my private hospital, in June last, on account of incipient phthisis and rheumatism; four weeks ago patient had an attack of rheumatic polyarthritis, confined to smaller joints, more particularly to both feet. A few days ago she called my attention to a subcutaneous nodule situated on the dorsal surface of the right hand, on the line of the tendon of the middle finger, and a similar growth in a like situation upon both of the feet. The growths partake of the general characteristics as described above; they are, however, somewhat painful, particularly on pressure; the patient presents a well-marked history of hereditary rheumatism.

Over

[1] Loc. cit.

TABLE OF CASES OF SUBCUTANEOUS RHEUMATIC NODULES.

Case.	Sex.	Age.	Occupation.	Temperate or Otherwise.	Locality	Atmospheric Condition.	Prevailing Winds at outset of Attack.	Exposure Date.	Date of Onset.	Nature of Attack.	Extent of Joint Affected.		RESULT.	
											Many Joints.	Migratory.	Recovery.	Persistence.
1	Male	51	Tailor.	Temperate.	Low, damp, confined.	Damp, wet, cold, changeable, clouds.	West.	. . . .	Feb'y 9, 1885.	Severe.	Many	Fixed.	Partial.	Two joints
2	Male	60	. . . . .	Intemperate.	High, dry.	Changeable.	Do not know.	. . . .	. . . .	Moderate.	Few	Migratory.	Partial.	One joint
3	Female	14	Schoolgirl.	Total abstainer	Low, damp.	Damp, cold, changeable, sun, clouds.	. . . .	To cold, Jan'y, 1879.	Jan. 1, 1879.	Severe.	Many	Migratory.	Partial.	One join
4	Male	20	Huckster	Temperate.	Low, damp, exposed.	Dry, cold, hot.	North-west.	To cold, Feb'y, 1883.	Feb. 10, 1883.	Severe.	Few	Fixed.	Partial.	Three joints
5	Male	18	Servant.	Temperate.	Damp, exposed.	Damp.	North.	To wet, July 10, 1885.	June 15, 1885.	Moderate.	Many	Migratory.	Partial.	. . .
6	Female	45	Farmer's Wife.	Temperate.	Low, damp, exposed.	Damp, cold.	. . . .	To wet during winter.	Mar. 25, 1885,	Moderate.	Few	. . . .	Complete.	. . .
7	Female	12	None.	Total abstainer.	High and damp.	Damp. sun.	East.	To wet, Oct. 7, 1885.	Oct. 8, 1885.	Severe.	Many	Fixed.	Complete.	One joint

Case.	HEART AFFECTIONS. Present Attack						SKIN ERUPTIONS. Present Attack.			Subcutaneous Nodules.	How many Previous Attacks.	Age at First Attack.	To what Common Ailments Patient is specially subject.	Sequelæ.	How long Patient has been under care of Observer.	REMARKS.
	Before	During.	After.	Pericarditis.	Murmur.	Position of Apex Beat.	Before.	During.	After.							
1	Not known.	Very slight.	. .	. .	. .	Normal.	. .	. .	. . . .	Present.	1	42	. . .	Chronic form in metacarpo-phalangeal articulation of both hands.	About six weeks	Marked dropsical condition of the feet for four weeks, from the kidneys being implicated in the early days of the attack.
2	. .	. .	. .	. .	. .	. . . .	. .	. .	. . . .	Present.	Don't know	. .	. . .		About a year	. . . . .
3	es	Yes	Yes	Yes	. .	Low.	. .	. .	Impetigo.	Present.	2	9	None.	Enlargement in upper part of left tibia, impetigo and palpitation	Since birth	. . . . .
4	. .	Yes	Yes	Yes	Yes	Normal.	. .	. .	. . . .	Present.	None	. .	None.	. . . . .	2 years	Rheumatism was persistent.
5	. .	. .	. .	. .	. .	. . . .	. .	. .	. . . .	Present.	. . .	18	. . .	. . . . .	40 days	. . . . .
6	. .	.	. .	. .	. .	Normal.	. .	. .	. . . .	Present.	2	19	None.	. . . . .	Eight mos	. . . . .
7	. .	. .	. .	. .	. .	Normal.	. .	. .	. . . .	Present.	. . .	. .	. . .	. . . . .	7 days	. . . . .