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**AVERAGES OF WEIGHT AND CHEST MEASUREMENTS OF 705 MADRAS COOLIES.**

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OBSERVATIONS of height, chest measurement and weight of 705 male emigrant labourers were taken at the Natal Government Emigration Depot, Madras, in order that averages might be worked out which would afterwards be of assistance in the medical examinations that are made before the coolies are sent to Natal. It was found that a considerable range of variability in weight and in chest measurement might be present in men of a given height without any departure from health. The averages have been of use in examining emigrants, but it has not been found possible to set up a rigid standard of weight or chest measurement and this has not been attempted.

The table which follows is self-explanatory.\*

Number of men examined.	Height.	Average weight.	Average chest measurement.
39	5 ft. 0 in. ...	103 lbs.	31.2 in.
48	5 ft. 1 in. ...	105 lbs.	30.8 in.
76	5 ft. 2 in. ...	107 lbs.	31.4 in.
89	5 ft. 3 in. ...	110 lbs.	31.5 in.
111	5 ft. 4 in. ...	113 lbs.	31.8 in.
134	5 ft. 5 in. ...	115 lbs.	31.7 in.
80	5 ft. 6 in. ...	119 lbs.	32.2 in.
67	5 ft. 7 in. ...	121 lbs.	32.4 in.
33	5 ft. 8 in. ...	126 lbs.	33.0 in.
17	5 ft. 9 in. ...	130 lbs.	33.2 in.
11	5 ft. 10 in. and over	130 lbs.	33.5 in.

The chest measurement was taken across the nipple line with the thorax at rest in the position of expiration.

Tamils and Telegus are represented in the above figures in about equal numbers. The majority of the Tamils come from the North and South Arcot districts, the majority of the Telegus from the districts of Coconada and Vizagapatam. The Telegus are superior to the Tamils in physique, being as a rule taller, heavier, and having a larger chest measurement.

About a third of the total number were 5ft. 4in. or 5ft. 5in. in height and more than half of them were from 5ft. 3in. to 5ft. 6in. in height. In the last line are included two men, one of whom was 5ft. 11in. and the other 6ft. in height, their chest measurements were 36in. and 34in. and their weights 153 lbs. and 151lbs. respectively.

The range in weight was considerable, the men of 5ft. 4in. in height ranged from 94lbs. to 128lbs., while those of 5ft. 5in. ranged from

96lbs. to 135lbs., at the latter height 96 out of the 134 men were between 110lbs. and 120lbs.

The age of the men upon whom these observations were made was between 18 and 40 years. The average age would be about 23 years. They are all of the agricultural coolie class, and on admission to our depôt are usually in hard muscular condition. Their weights are taken on their arrival at the depôt and again at a later date. In a few weeks, the abundance of food and the complete freedom from work makes a considerable difference in their appearance. Those who are in health put on weight rapidly and their skins take on that smooth, shining appearance that indicates good health.

The chest development leaves much to be desired. At 5ft. 4in. and at 5ft. 5in. the range is from 29 in. to 34 in. No attempt was made to obtain figures shewing power of chest expansion. The average coolie labourer from the mofussil does not indulge much in deep costal breathing. What deep breathing he does is carried out by the use of diaphragm and abdominal muscles, and he is almost unable to expand his chest beyond a very slight degree.

Scoliosis is not uncommon, and in some cases marked dorsal hyphosis due to weight carrying was observed.

If compared with European standards the above averages of weight and chest measurement will not look at all well. These men are, however, wiry and muscular and are capable of sustained effort on, what would seem to us, a very insufficient diet.

## A Mirror of Hospital Practice.

### SOME OBSERVATIONS ON HYDROCELE.

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It may seem that the subject of hydrocele is worn somewhat threadbare in India, but two points in connection with it have been rather forced upon my notice lately and seem sufficiently novel to be worthy of remark.

In the first place, in cases coming for operation, I have been struck by the frequency in which the opposite testicle to that diseased, has been operated upon some months or years previously. This to suggest that hydrocele is far more often bilateral than unilateral, and on examining cases from this point of view, I have found, with the aid of a diagnostic sign described below, that when the tunica vaginalis on one side is much distended then, in nearly every case, an early hydrocele may be diagnosed on the other side, which would not be discovered but for this physical sign.

\* See Note below p. 268.

As far as I am aware this sign has never been described, but, as it is very simple and straightforward, it is possibly known to many. Since, however, I have met no one who knew of it, I venture to publish it as it will be found extremely useful and characteristic.

It is elicited as follows:—

The hydrocele is grasped fairly tightly in one hand, in the same way as it is grasped for observing translucency—it may be remarked in passing that translucency is difficult to obtain with a deeply pigmented scrotum—an attempt is now made to pinch up the tunica vaginalis; as this pinching is attempted the grasp of the squeezing hand is gradually slackened and, as the slackening goes on, the finger and thumb at some point will feel the tunica vaginalis pinched and then the tunica will be felt to slip away. Usually the best place to pinch is straight in front of the testis, but often it is easier to pinch up the tunica near the lower pole.

In the case of very small hydroceles, one pinches gently the body of the testis between the finger and thumb in such a manner that the testis will slip away: as it slips the tunica will be found to remain between the finger and thumb, and then in its turn to slip away. The tunica cannot be pinched up off a normal testicle.

Obviously this sign cannot be elicited if the sac is very thick, or if the fluid inside is at very high tension, but it is available in the great majority of cases.

The advantages of this sign are more than merely diagnostic. It enables one to locate the testis and generally to estimate its size by pinching around it. It enables one to feel the thickness of the tunica vaginalis and incidentally its probable vascularity and so to make up one's mind whether to make a very small hole in it and merely evert the sac, or to have a threaded needle handy to stitch back the sac in which a larger opening is required. It also allows of the detection of a commencing hydrocele which cannot be diagnosed in any other way and so enables an earlier operation to be done, which is then a very simple matter. The sac can be pinched up in such early hydroceles a long time before fluctuation can be obtained. Lastly, the sign when positive is characteristic of hydrocele alone, it can be produced by no other condition. In hæmatocele the sac becomes so thick, and the tension of the irritating fluid so high that the tunica cannot be pinched up.

Mention being made of hæmatocele leads to the second point. Major Gabbett in his little book\* recently published states that "hæmatoceles occur far more frequently in India than in Europe are not by any means due to trauma, nor do they always appear suddenly." While

agreeing in the main with this statement, my experience has been that in most cases there has been a previous history of tapping, and of recent tapping. I used to think that tapping followed by hæmatocele indicated that the testis had been punctured. A moderate number of cases of hæmatocele which had followed tapping by people known to me, who would be unlikely to puncture the testicle, caused some reflection on the point, and I believe now that the hæmatocele is not due to injury of the testis when tapping, but that it is due to rupture of the vessels of the sac wall. It is in fact comparable with the hæmorrhage which so often occurs when a thyroid cyst is tapped.

The tapping is usually done by a Sub-Assistant Surgeon in the mofussil. All Madras dispensaries are supplied with what are termed hydrocele trocars and the Sub-Assistant Surgeon uses this as he has no other. These trocars are suitable for tapping a bladder perhaps, but they are about eight times too big for hydrocele. If an hydrocele must be tapped, it should be done with as fine a trocar as possible, and it should be allowed a very long time to empty itself. It is, I believe, the sudden diminution of tension within the sac that causes the rupture of the small veins in the sac wall. These, suddenly losing their accustomed support, bleed into the sac until the pressure becomes sufficient to stop it.

Confirmatory evidence of this suggestion can be found when operating on hydrocele. Usually one slits the sac,—everts it and sews up the wound as rapidly as possible; but if, after slitting and everting the sac, one waits a few minutes, in most cases it will be observed—and in all cases where great tension has existed—that the inner surface of the sac, especially the reflection from the epididymis, turns pink, then red, then violet and frequently oozes blood all over. In this case, of course, the lowering of the tension has been quite sudden. I am convinced that most cases of post-operative hæmorrhage bleed in this way and not from the cut edge of the sac.

This fact may modify practice in operating. A very successful radical cure may be obtained by making as small a hole as possible in the tunica vaginalis and then squeezing the testis through this, trusting to tension to keep the sac everted. The result of this is that the edge of the opening into the sac in its new position forces the cord to a lower level than normal and the testis, when suspended by the cord, hangs horizontally, at any rate until some atrophy of the sac has occurred. This being so, it is clear that when the bandage has been applied with some pressure, the testis will be forced into a more vertical position again, and now the cord will be kinked where the opening of the sac surrounds it. This would be no great matter in the case of a small hydrocele from which no blood is oozing, but if there is

\* Four common surgical operations in India, p. 24.

any tendency to bleed, it is certain that this kinking of the veins in the cord will increase that tendency. I therefore recommend that when the sac is large and the tension of the fluid has been high, the best practice is to make a fairly large opening in the sac and, after everting it, to fasten the edges together behind the testis with one stitch, paying particular attention to the position of the cord so that the veins will not be pressed upon. In such cases it is also wise to put in a gauze drain. If this is left for twenty-four hours and then removed, it will be found soaked with blood, however tightly the scrotum may have been bandaged. It is, I believe, this accumulation of blood within the scrotum that accounts for the fact that such a simple operation as a radical cure for hydrocele, so often gives trouble in the after-treatment.

### ON AN ANOPHELINE ALLIED TO MYZOMYIA LISTONI.

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THIS species is small and dark.

*Palpi*.—With two white bands, the one which includes the tip being much broader than the basal band. The former includes the two terminal segments of the palpi.

*Proboscis*.—Slightly longer than the palpi, dark brown in its inner half, lighter in colour in its outer half, the tip being lightest in colour.

*Antennæ*.—With short whitish and blackish hairs.

*Head*.—Same as in *Myzomyia Listoni*.

*Thorax*.—Same as in *Myzomyia Listoni*.

*Wings*.—The costa has five dark-scaled areas separated by small white spots. The first area at the base of the costa corresponds in length to half the corresponding dark area on the costa of the *Listoni*. The first longitudinal vein has four dark areas, the first being almost equal in length to that of the corresponding area in the costa. The trunk of the second longitudinal vein is white except for a tiny black area at its middle, and another larger dark area near to its bifurcation. The anterior branch has three white spots and the posterior two white ones. The third longitudinal vein is white-scaled except near to its termination. The fourth longitudinal vein has two white-scaled areas on its trunk. The posterior branch is white. The fifth longitudinal vein has its stem white-scaled except for a tiny spot near to its origin. The anterior branch has three white spots and the posterior is almost white-scaled throughout except for a tiny spot near to its base. The sixth longitudinal vein is white-scaled except for three tiny black areas. The wing fringe is white-scaled opposite all the longitudinal veins including the sixth.

*Legs*.—Brown, but have white scales at the junction of the femur with the tibia and at the tibio-tarsal and tarsal segments. The white scales are most marked in the anterior leg and less marked in the middle and posterior legs.

*Abdomen*.—Same as *Listoni*.

*Locality*.—Found in a tank in the Campbell Hospital, Calcutta, among a large number of *fuliginosus*. The tank has grassy sides.

This anopheline differs from true *Listoni* in the following respects:—

- (1) Different palpal markings.
- (2) Different proboscis markings.
- (3) Different wing markings.
- (4) Different leg markings.

EXAMINATIONS—HINDUSTANI.—With reference to India Army Order No. 22 of 1911, publishing revised rules for the conduct of examinations in Higher and Lower standards in Hindustani, it is notified that at the examinations to be held in the last quarter of the current year, candidates will have the option of being examined on the new or old text-books, as they prefer. During this period candidates who have already passed in Part I or Part II of the tests under the existing regulations, will be exempt from passing in the corresponding part of the new examination. For this purpose the equivalent of such parts will be taken to be:—for Part I, sub-heads (d) and (e); for Part II, sub-heads (a), (b) and (c) of the new tests.

At all examinations subsequent to 1st January 1912, qualification in the whole examination in each standard, as laid down in the above-quoted order, will be required.

With reference to paragraph 636, Army Regulations, India, Volume I, the classes therein named who have already drawn half the total reward for previous success in a part of the examination will, on qualifying in the new tests, only be entitled to the remaining half of the reward.

The equivalent of Part II, Lower standard, sub-heads (a) and (c), for qualification for engineer pay, referred to in paragraph 680, Army Regulations, India, Volume I, will, under the revised rules, be sub-heads (a) and (b) of the test for the Lower standard examination.

DR. BURTON NICOL'S figures of Heights and Weights, p. 266 above, strongly resemble the formula known as "Buchanan's formula" published in these columns many years ago. It runs:—

"Taking 5ft. to correspond to a weight of 100lb., add 3lb. for every inch up to 5ft. 8in.; for 5ft. 8in. and over add 4lb. per inch, e.g., 5ft. 3in. = 109lb., and 5ft. 6in. = 118lb., 5ft. 10in. = 132lb., &c., &c.