

and contact with, these areas. Further, after the peritoneum is closed, irrigation of the field with salt solution will tend to remove any remnants of blood or uterine tissue.

To those interested, the contributions on adenomyoma are well known. It will give no new information to review the subject here. Cullen's "Umbilicus and Its Diseases," published in 1916, and Lockyer's "Adenomyoma," in "Lewis' System of Surgery," volume XI, chapter XVIII (with bibliography) will give valuable information.

The interesting features of this case are: over-treatment of fracture of the pelvis, producing deformity of the pubic bone, and demanding Cesarean section. At this operation endometrium was transferred to the umbilical region and developed into adenomyoma.

A microscopic slide of this tissue was sent to Dr. T. S. Cullen, who kindly had a microphotograph prepared. It is a pleasure to acknowledge his interest.

GIANTISM* REPORT OF A CASE

By CHARLES D. HUMBERD, M.D.
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Supper was not yet over when there arrived two more travellers. * * * One of these was the proprietor of a giant, * * * the other a silent gentleman who earned his living by showing tricks upon the cards, and who had rather deranged the natural expression of his countenance by putting small leaden lozenges into his eyes and bringing them out of his mouth, which was one of his professional accomplishments. The name of the first of these newcomers was Vuffin; the other * * * was called Sweet William. To render them as comfortable as he could, the landlord bestirred himself nimbly, and in a very short time both gentlemen were perfectly at their ease.

"How's the giant?" said Short, when they all sat smoking around the fire.

"Rather weak upon his legs," returned Mr. Vuffin.

"I begin to be afraid he's going out at the knees."

"That's a bad look-out," said Short.

"Ay! Bad indeed," replied Mr. Vuffin, contemplating the fire with a sigh. "Once get a giant shaky on his legs, and the public care no more about him than they do for a dead cabbage-stalk."

"The maintaining of 'em must come expensive, when they can't be shown, eh?" remarked Smart, eying him doubtfully.

"It's better than letting 'em go upon the parish or about the streets," said Mr. Vuffin. "Once make a giant

common, and giants will never draw again. * * * This shows the policy of keeping the used-up giants * * * where they get food and lodging for nothing, and in general very glad they are to stop there. There was one giant as left some year ago and took to carrying coach-bills about London, making himself as cheap as crossing-sweepers. He died. I made no insinuation against anybody in particular," said Mr. Vuffin, looking solemnly around, "but he was ruining the trade—and he died."

"What about the dwarfs when they get old?" inquired the landlord.

"The older a dwarf is, the better worth he is," returned Mr. Vuffin. "A gray-bearded dwarf, well wrinkled, is beyond all suspicion. But a giant weak in the legs and not standing upright—never show him."

—Charles Dickens,

The Old Curiosity Shop, 1840, Chapter 19.

Giants are such rare "biological accidents" that very few case histories of them appear in medical literature. And almost without exception those records which have been published bear out Dickens' idea that giants are sickly weaklings,



FIG. 1
Acromegalic giantism. Giant H. M. M., whose stature is 7 feet 6 $\frac{3}{4}$ inches. The normal man measures 5 feet 9 $\frac{3}{4}$ inches in shoes.

*Received for publication January 25, 1938.



Fig. 2

Note the body's proportions and the normal distribution of body hair in uncomplicated acromegalic gigantism.

poorly shaped, awkward, clumsy and dull, rich only in bone, and poor in both brain and muscle. Medical men and the laity alike have this ingrained conception. The case history which follows presents an exceptionally tall giant, whose stature has very rarely been exceeded, but whose mental faculties are of the highest order, and whose agility and brute strength are of themselves well worthy of note in our sedentary age.

November 23, 1937. H. M. M., known to the theatrical world, is an acromegalic giant, 22½ years old, 7 feet 6¾ inches tall. He is complaining only of a large and painful but very ordinary boil on his nape, just to the left of the midline. He had two other uncomplicated boils in the same spot four years ago.

His occupation is that of a vaudeville and movie actor; I have seen him on the stage several times. It is indeed amazing to watch so vast a personage doing a whirlwind acrobatic act. Teamed with a very muscular achondroplastic dwarf of 43½ inches and a lithe gymnast of 5 feet 4½ inches, he is the mainspring of a surprising trio which rates in the upper brackets of costly vaude-

villie turns. He dances, fast and furiously, and engages in a comedy knock-about "business" that would be found strenuous by any trained "physical culturist." His feats quite apparently require considerable muscular development, very good coordination, and expert timing. His great strength and energy in performing them are most astonishing. His agile and acrobatic tap-dancing, in shoes that are 16½ inches long, is phenomenal. With all his nimbleness he has much histrionic ability, and can do a ludicrous skit, by impersonating a girl, that "rolls 'em in the aisles." He lifts two 150-pound men with supreme ease and carries them around, one on each forearm, without bother. His rhythmic act goes on the stage four or five times daily, and he has never missed a performance in five years. He wears out three or four pairs of dancing shoes each year. His vigorous routine is done briskly and snappily, with quite apparent freedom from effort, and with no hint of the elephantine clumsiness which has come to be associated with some circus giants. His performances are hard work, but they do not make him perspire unduly, nor even pant for breath. When he walks he strides along on the bounce, with none of the leaden-footed shuffling that so many overgrown men acquire.—Incidentally, this is a case report by a sober physician, and not a press agent's pipe-dream!

This patient was born May 1, 1915, in Atlanta, Georgia, the eleventh of thirteen children, and the youngest of five brothers. He is well acquainted with all of his immediate family "tree" to second and third degrees of kinship, and none of his relatives were or are of other than very ordinary stature. His mother and all his



Fig. 3

Giant H. M. M. in an ordinary 18-inch chair. His sitting height is 46¾ inches.

siblings are living; his father, a baker, died in 1925, aged 65 years, of "a stroke." His parents were native Americans; both were of Irish descent. He weighed eleven pounds at birth. He was breast fed. He had all the ordinary contagious diseases of childhood when very young, in very light forms. He was never noticeably different from an ordinary size until some time in his ninth year; then an abnormally rapid increase in his height began. His tonsils and adenoids were removed during his tenth year. In his eleventh year he was six feet nine inches tall, and roentgenograms were made of his sella turcica. His family physician advised a series of x-ray irradiations to his pituitary region. But a few days after the first treatment all of the hair fell out of two "baseball-sized" areas on the right side of his scalp, and the skin there became very red and rough. So there was no follow-up of the irradiations. The hair grew in the bald spots in a few months. During his twelfth year the patient attained a stature of seven feet, and was showing so much talent as a sandlot baseball pitcher that the local newspapers were discussing a career in the national game for him. In his fifteenth year he had reached a height of 7 feet 5 inches, and, having finished his second year of high school, started out in the show business. He has been on the stage and in the movies, in continual travel, ever since, with most of his training acquired in the school of hard knocks. His early photographs show that he has always been well-built and well-shaped. Like all theatrical artists, he is proud of his scrap book. Seven years have added $1\frac{3}{4}$ inches more to his crown-heel length, so that he now measures 7 feet 6 $\frac{3}{4}$ inches in height; he weighs 280 pounds stripped. Theater dressing rooms are very cramped quarters indeed for him. He was married in March, 1936, and leads the normal life of a happily married man amidst all the hard razzle-dazzle of a fly-by-night existence.

He has never been sick, has never met with an accidental injury of any consequence except for a sprained knee when he played baseball, has never had a broken bone, nor any surgical operations other than the tonsillectomy.

He is alert, intelligent, well read, affable and friendly, a thoroughly qualified business man, and "a good trouper." He is cultured and social minded, and has completely adjusted himself both to the blank and dazed stares that are occasioned daily by his conspicuous height, and to the antics of the candid camera clique. He has a quick smile and a bland and ready answer for all the smirks and wise-cracks and horse-play that his great bulk incites. The other members of his troupe say that it takes extreme provocation to make him appear angry, for he has abundant temper, but has learned to control it with an amused tolerance. He dresses very neatly, almost fastidiously, and the newspaper writer who sponsors "What the Well Dressed Man Will Wear" could chortle some very pretty raptures over the ensembles of his wardrobe. He looks extremely well-groomed even when he is stripped. His clothes and shoes must of course be specially made, but he can wear a stock size $17\frac{1}{2}$ shirt by putting a loop on its neck-button and a splice on its tail! He likes to sleep seven or eight hours nightly, and naturally he prefers an over-sized bed. But he will sleep heartily—and all curled up—in the ordinary double bed in his hotels, without complaint.

He is blessed with an excellent appetite, and his usual food requirements run from 50 to 75 per cent more

than those of the average 170-pound man. He uses both tobacco and alcohol with much moderating restraint.

There are eight old scars of boils on his neck and about his anus, and a dozen or so scattered acne-like papules over his shoulders. Otherwise his skin is clear, clean, and but very little coarser than normal in texture. His color is very good; it is much more ruddy and florid than that of the usual indoors type of man. His beard is coarse and heavy, requiring daily or twice-daily shaves. He has much pubic hair, of the normal masculine distribution, and more than the average amount of body hair on his chest, forearms and legs, and in his axillae. The hair of his scalp is coarse and very thick, but it shows a little thinning towards its frontal margin.

His brows are massive and rugged, and both jaws are very deep and wide. All of his joints seem just a little enlarged in proportion to his stature. Except for these he shows no prominent stigmas of his acromegaly. He stands and sits very erect, and carries himself well.

His eyes are entirely normal as to appearance, to reflex reactions, and to width of visual fields. His vision is 20/20 for each eye, his hearing is better than 20/20 for each ear, and he is quite sure that he has no disturbances of smell or taste. He has never been bothered by headaches. The undue prominence of his zygomatic arches makes his temples appear considerably sunken. A decided furrow replaces the ordinary tubercle at the lower



Fig. 4
Giant H. M. M. measures 18 inches (45.7 cm.) from crown to sternal notch.

end of the philtrum of his upper lip. His lips are very thick and high-colored. His rather set "stage-smile" makes him, when at ease, appear to be a mouth-breather, but his nasal airways are clear. His teeth are big, well spaced and set, and in good condition. His occlusion is perfect. His tongue is large, but not disproportionately so. He has some large ragged tags of tonsils, and much lymphoid tissue on the posterior wall of his pharynx. Once in a while he catches cold. His mastoid regions are not particularly enlarged when his stature is taken into account. His Adam's apple is prominent. His voice is throaty and a little harsh, but it is very distinct in enunciation. His thyroid is a little large, and quite soft. His pulse rate at rest is 86; without a background of metabolic studies I get a distinct clinical impression that he has just enough surplus hormonopoietic thyroid and adrenal tissues to give him the "drive" that pushes him on, happily, to all his good-natured activity and exuberance.

Table 1, Part 1

ANTHROPOMETRIC PICTURE OF GIANT H. M. M.

	Cm.
Total height (crown-heel length, stature).....	230.5
Height at external auditory meatus.....	214
Height at seventh cervical vertebra.....	198.5
Acromial height.....	193
Height at sternal notch.....	187
Height at insertion of xiphoid.....	155
Height at umbilicus.....	138.5
Height at iliac crest.....	140
Height at lower margin of symphysis.....	123
Height at greater trochanters.....	123
Height at center of patellae.....	68
Height at external malleoli.....	11
Length, hairline to glabella.....	9
Length, hairline to tip of nose.....	15
Length, hairline to lip-line (mouth closed).....	20.5
Length, hairline to point of chin.....	27.5
Interpapillary distance.....	8.3
Length of nose.....	7.5
Breadth of nose at insertion of alae.....	5
Length of ear.....	7.3
Length, external auditory meatus to point of chin.....	18.5
Biogomatic diameter.....	16
Biparietal diameter.....	18.5
Bitemporal diameter.....	15.3
Bimastoid diameter.....	16
Greatest width of mandible at angle of jaw.....	14.3
Diameter, glabella toinion.....	24.5
Occipito-frontal circumference.....	64.8
Circumference, vertex and point of chin (mouth closed)....	70.5
Circumference of neck over larynx.....	33
Circumference of neck at normal collar line.....	44
Biacromial width of shoulders.....	52
Breadth between nipples.....	27.3
Length of sternum, excluding xiphoid.....	30
Length, sternal notch to umbilicus.....	49.5
Breadth between iliac crests.....	41.5
Extreme "reach" or span of outstretched arms, from tip to tip of middle fingers.....	227.5
Sitting height.....	119
Length, occiput to base of sacrum.....	98.5
Circumference of chest at axillae.....	113
Circumference of chest at nipples.....	112
Expansion.....	117-103= 14
Waist measurement.....	95
Circumference of abdomen at crests of ilia.....	103.5
Circumference over greater trochanters.....	119
Diameter, symphysis to sacro-lumbar joint.....	33
"Stretch," the highest point on the wall to which the tip of the longest finger can reach, "on tip-toes".....	302.5

His neck looks unduly long, or perhaps his sloping shoulders enhance this appearance of deviation from the normal. His forearms are particularly rugged. His hands are enormous but shapely, and he has a tricky way of handling them most expressively. There are no palpable glands in the epitrochlear regions nor in his neck or groins. His scapulae are slightly winged; their borders are convex.

There is a distinct dulling of the percussion note in both apices, but this could have an anatomical basis only. Certainly he gives no history of cough, hemoptysis, fever, loss of strength, or the like. The lung sounds are all normal. The heart sounds give no indication of any cardiac pathology. His chest expansion, measured over the nipples, is 5½ inches, a notable figure. The respiratory excursion is entirely free; the rate is 12 to the minute. His spine shows no deviation from the normal antero-posterior curves and no scoliosis. His abdomen is wholly negative to deep palpation. He never needs a cathartic. He has no external hemorrhoids. His history is completely negative as regards genito-urinary or venereal disorders.

Table 1, Part 2

	Cm.
Length (height) of scapula.....	28
Breadth of scapula.....	20.3
Length of clavicle.....	22
Length, acromion to tip of middle finger, arm straight.....	102
Length, acromion to ulnar styloid, arm straight.....	75.5
Length, acromion to olecranon, arm flexed.....	52
Length, olecranon to ulnar styloid.....	33
Length of "cubit".....	61.3
Length of radius.....	31
Circumference of biceps.....	34.3
Circumference of elbow.....	33
Circumference of wrist.....	22.7
Bistyloid diameter of wrist.....	8.6
Length, center of bistyloid line to tip of:	
Fifth finger.....	22.5
Middle finger.....	27.5
Thumb.....	22.5
Breadth of palm.....	12
Circumference of palm.....	28.5
Length of fingers flexed at knuckle:	
Fifth.....	12
Fourth (ring).....	14.5
Third (middle).....	15.5
Second (index).....	14
Length of thumb.....	14.5
Span of hand.....	30.5
"Ring" circumference of fourth finger.....	8
Circumference of thumb at distal joint.....	9.5
Length, anterior superior iliac spine to center of patella.....	67
Ditto, to floor.....	135
Length, greater trochanter to center of patella.....	61.5
Circumference of thigh.....	63.5
Circumference of knee.....	49
Circumference of calf.....	43.5
Circumference of ankle.....	44
Length of foot, heel to end of great toe.....	39
Length of foot, heel to end of fifth toe.....	30
Circumference of foot at ankle (instep).....	34.3
Circumference of foot at base of toes.....	30.5
Width of foot at base of toes.....	14
Free length of great toe.....	9.5
Circumference of great toe.....	12.3

In Part 2 of this table the measurements of both the right and left sides were recorded, but the variations between them were so negligible that only the mean is here given. The greatest difference found was in the circumferences over the biceps, and the right was the larger by less than a centimeter. This giant is right-handed.

The external genitalia of this Hercules are of a size commensurate with his giant stature. His libido fully equals that of any virile young male, and his sex life holds no physical nor psychological deviations from the normal.

His patellae are phenomenally large; the two of them together would duplicate the size of a very large orange. His knee jerks and his Romberg are normal. The superficial veins of his lower legs are greatly enlarged and very tortuous; those of his forearms show the same finding to a less marked degree. Both the longitudinal and the transverse arches of his feet are low, but not entirely flat. He has had no disturbances of sensation in his feet, and none of the trophic ulcers which are the bane of most giants. His great toes are peculiarly spatulate; the ball of either of them will conceal a silver dollar. His other toes are all slightly clawed, but they are even free from corns.

The patient gives his history earnestly and cooperates enthusiastically in the detailed tedium of noting and rechecking all his measurements with accuracy. Some time ago I encountered extreme difficulty and many obstacles in securing a satisfactory clinical description and case history of a giant boy¹ at Alton, Illinois, and despite my best efforts the account had to be incomplete. Dr. Horace Gray similarly met much opposition and was put to an immense amount of trouble lately in getting his fine clinical study of his 7-foot epileptic.² Dr. Peter Bassoe was not allowed to measure his Minnesota giant³ even at autopsy. Dr. William N. Lackey had real reason to complain about the opposition which his crippled Negro giant⁴ offered to attempts at a detailed history. Such tales of hindrances and obstructions occur and recur throughout medical literature. Yet here is a most phenomenal giant who is not only anxious to learn everything that we can tell him of pituitary eosinophilism and about other abnormally tall persons, but who is sincerely eager to add whatever he can to our meager store of knowledge in this field! It is very little less than astounding to find that one of the very tallest men this side of up is both a robust athlete and a cordial and amiable gentleman. I have met several giants in the past few years, and have measured and examined most of them. Although he is not the very tallest, this specimen ranks far up among them, and he is much the best developed member of the genus that I have ever heard of, or read about, or seen.

The usual forms or outlines or plans of measurements, as given in the standard textbooks on anthropometry, are unsatisfactory when the subject is a giant. They include some non-essentials and omit a number of details which I have found to be interesting, useful, and important

in the study of giantism. These details are those which will allow comparisons with older and casual data, with deducible findings about earlier giants, and with the fragmentary notations and records left to us by inexperienced observers. The accompanying table of H. M. M.'s anthropometric picture is of my own devising; as a plan it has had several revisions and some cut-and-try alterations. It is now conveniently and handily arranged, is self-checking, and it offers a logical sequence of the dimensions of a giant.

Just to complete the record: the furuncle was laid well open with a single linear incision without anesthesia, and its slough was gently expressed. Thirty hours later all of its swelling was gone, the wound was flat, dry and sealed, and the patient's attendance record was still untarnished, for "the Show Must Go On!"

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RENAL AND PERIRENAL TUMORS IN CHILDREN*

REPORT OF TWO CASES

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Most neoplastic growths involving the renal and perirenal tissues in children are composed of a mixed embryonal cell, and tumors of this nature grow rapidly and often are quite large before the patient is seen by the physician. It is said by some authorities that these tumors are of frequent occurrence. However, a review of recent literature reveals very few reports. Often these tumors constitute a real diagnostic problem and after a careful application of our present day diagnostic studies, the correct diagnosis is not made.

Adenosarcoma or Wilm's tumor and neuroblastoma of the adrenals are the two most common types of tumors seen in the kidney region in children. Warner reports in a study that 20.4 per cent of all neoplasms occurring in chil-

*Read in Section on Pathology, Southern Medical Association, Thirty-First Annual Meeting, New Orleans, Louisiana, November 30-December 1-2-3, 1937.