ORTHOPAEDIC SURGERY IN THE SIXTEENTH AND SEVENTEENTH CENTURIES

LUXATIONS OF THE HIP

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Ambroise Paré (1510–1590) is no less interesting on the subject of dislocations of the hip than he is in dealing with dislocations of the shoulder and of the spine. He seems to have included congenital and acquired dislocations and, most certainly, some examples of fracture of the neck of the femur. The first clear description of the pathology of congenital dislocation of the hip was not to come for 300 years after Paré wrote his account in 1575. The following paragraphs are reprinted from the English translation dated 1678.

OF A DISLOCATED THIGH OR HIP

"The thigh or hip may be dislocated, and fall forth towards all the four parts but most frequently inwards, next to that outwards, but very seldom either forwards or backwards. If the hip be dislocated towards the inner part that leg becomes longer and larger than the other, but the knee appears somewhat lower, and looks outwardly with the whole foot, neither can the patient stand upon his leg. To conclude, the head of the thigh bone betrays itself lying in the groin, with a swelling manifest both to the eye and hand. The leg cannot be bended towards the groin for that the dislocated bone holds the extending muscles of the same part so stiffly stretched out that they cannot yield or apply themselves to the benders.

PROGNOSTICS BELONGING TO A DISLOCATED HIP

"There is this danger in the dislocation of the hip that either the bone cannot be put into the place again, at least unless with much trouble, or else being put in that it will presently fall out again.

OF RESTORING THE THIGH BONE DISLOCATED INWARDS

"It is fit to place the patient upon a table or bench, in the midst whereof shall stand fastened a wooden pin of a foot's length and as thick as the handle of a spade but it must be wrapped about with some cloth, lest the hardness hurt the buttocks betwixt which it must stand. The wooden pin hath this use to hold the body that it may not follow him that draweth or extendeth it; and that the extension being made as much as is requisite it may go between the Peritoneum (sic) and the head of the dislocated thigh. For thus there is no great need of counter extension towards the upward parts. But when the extension hath need of counter-extension then it is needful you have such ligatures at hand as we have mentioned in the restoring of a dislocated shoulder, to be drawn above the shoulder. One of these shall be fastened above the joint of the hip, and extended by a strong man. Another shall be cast above the knee by another with the like force. Some too clownish and ignorant knot-knitters fasten the lower ligature below the ankle and thus the joynts of the foot and knee are more extended than that of the hip or knuckle-bone, for they are nearer to the ligature and consequently to the active force. But if the hands shall not be sufficient for this work then must you make use of engines. Wherefore then the patient being placed as is fit and the affected part firmly held, some round thing shall be put into the groin, and the patient's knees, together with his whole leg, shall be drawn violently inwards towards the other leg. And in the meanwhile the head of the thigh shall be strongly forced towards the cavity of the knuckle-bone and so at length restored. (Fig. 1.)
"When the head of the thigh by just extension is freed from the muscles wherewith it was infolded, and the muscles also extended that they may give way and yield themselves more pliant then must the rope be somewhat slacked otherwise the restitution cannot be performed for that the stronger extension of the engine will resist the hand of the surgeon, thrusting and forcing it into the cavity. You shall know that the thigh is restored by the equality of the legs, by the free and painless extension and inflection of the lame leg. Then must both the thighs be bound together whereby the dislocated member may be unmoveable and more and more strengthened. To conclude the patient must be kept in his bed for the space of one month, that the relaxed muscles, nerves and ligaments may have space to recover their former strength, otherwise there is danger lest the bone may again fall out by the too forward and speedy walking upon it.

Fig. 1
Reduction of an "inward" dislocation of the hip. The perineal post is not shown. Note that the traction rope is fastened above the knee, not below as is done by clownish and ignorant knot-knitters. (From the English translation [1678] of Paré's work.)

OF RESTORING THE THIGH DISLOCATED OUTWARDLY

"The patient must be placed grovelling upon a table in this kind of dislocation also, and ligatures as before cast upon the hip and lower part of the thigh, then extension must be made downwards and counter-extension upwards then presently the head of the bone must be forced by the hand of the surgeon into its place. If the hand be not sufficient for this purpose our pulley must be used.

"This kind of dislocation is the easiest restored of all those which happen in the thigh or hip for that I have divers times observed the head of the thigh to have been drawn back into its cavity somewhiles with a noise or pop, otherwise without."

Other Renaissance authors have nothing valuable to add to Paré's recommendations. The scamnum, that most versatile and ancient appliance, was used by Vidius for a dislocated hip as for so many other injuries. Indeed, until the days of Bigelow, increasingly powerful traction-devices giving more and more pull were the only additions to the surgeon's stock-in-trade for this dislocation as for all others. Three simple methods from Galen are worth noting: straddling the patient across a bar and tying a large full earthenware jug to
Fig. 2
Reduction over a beam. (From the Opera of Galen, 1625.)
Fig. 3
Reduction by ladder and weight-on-ankle.
(From the Opera of Galen, Venice edition, 1625.)

Fig. 4
Pugh's traction with a vengeance! A third technique from Galen (loc. cit.).
the affected leg (Fig. 2); a ladder and weight round the ankle (Fig. 3); and even hanging him upside down by his heels and swinging upon him (Fig. 4) as was the habit of the hangman when traction had to be increased in the other direction.

It is well to remember that we are not far from those days. Even the text-books of to-day contain references to the block-and-tackle in reducing dislocations of the hip, and Treves's (1923) vivid account of such an operation describes a standard method of only seventy years ago. It was his first visit to an operating theatre, where he laid hold of a rope upon which two men were already pulling. He "was afterwards informed that the operation in progress was the reduction of a dislocated hip by compound pulleys. The hip, however, was not reduced." He adds, with an amusing overstatement, that in 1923 "a well-instructed schoolgirl could reduce a recent hip dislocation unaided." It is as well for us to remember that such truth as that statement contains reflects credit rather upon our anaesthetists than upon any orthopaedic surgeon of any century.

REFERENCES