A NOTE ON CERTAIN MODIFICATIONS OF THE SUPRAPUBIC OPERATION FOR STONE OR TUMOUR OF THE BLADDER.

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THERE is a modification of the suprapubic operation necessary when dealing with the female bladder, since it cannot, without very special apparatus, be permanently distended like that of the male. And the same condition occurs in that of the male also, if, after opening the urethra for the purpose of exploring the bladder for tumour, and finding one, it is deemed necessary immediately to operate

until it has nearly reached the bladder, when the olivary end is plainly distinguished, and the stylet is withdrawn by the assistant. The end of the sound and the slit therein are now easily felt through the tissues by the index finger. When the fibres of the bladder are laid bare at and around this spot, the hook is passed deeply into the slit, so as to take up a portion of the vesical coat and hold it securely, while it is perforated by a scalpel in an adjacent spot. By this means the bladder is prevented from collapsing and slipping down out of sight or reach—an accident very apt to occur and to embarrass the operator if he opens the viscus on the end of an ordinary sound, which usually emerges by the opening, while the bladder disappears by contracting and shrinking around the instrument. In these circumstances it has often been found difficult to introduce anything into the cavity by the side of the sound, a dilemma which the little contrivance proposed above efficiently provides against. In the old method of operating on a staff, without distension

FIG. 1.

FIG. 2.

above the pubes. This may happen when by means of the urethral opening it is discovered that the tumour is too large to be removed by the perineal route, or is so situated that it can be only safely attacked from above. In either case the distension of the rectum is to be fully made as usual; but as no fluid can be securely retained in the bladder in the circumstances described, the incision must be made on a director previously passed into the viscus. This director should be in the form of a well-curved hollow steel sound, with an open end, neatly closed by an olivary bulb attached to a strong stylet running through the instrument and capable of being fixed at the handle. Fig. 1 shows the sound, and Fig. 2 the stylet, with the bulbous end. At the extremity of the sound, a wide open slit, about three-quarters of an inch long, is made in the concave aspect. See Fig. 3, with the bulb in place. Fig. 4 shows the end of the instrument when the bulb is withdrawn.

The rectum being distended as before directed, no injection of the bladder takes place, but the sound containing the stylet is passed and retained in place by an assistant. The dissection is now carried on in the median line, as usual,

of the rectum, this accident not infrequently happened, and I have little doubt that the endeavours to re-establish the route into the bladder sometimes occasioned disturbance of the cellular connexions around the neck, and so induced the infiltration there, formerly said to have been one of the risks of the operation.

Reverting to the use of the index finger-nail as a divider of tissue in the operation, and its marked superiority to the knife, it has occurred to me that a more generally applicable instrument might be constructed in ivory. Accordingly, Messrs. Weiss have made one to my design, of which the woodcuts Figs. 5 and 6 give a representation on a scale of exactly half the linear measurement. The lower, or slightly convex, end seen at Fig. 5 is very finely serrated, and acts as an artificial finger-nail; the hooked termination for drawing aside a vein is shown in a lateral view of the instrument at Fig. 6.

FIG. 5.

FIG. 6.

CONSEQUENCES OF NARROWING OF THE MITRAL VALVE WHEN OCCURRING IN CHILDHOOD.

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IN the year 1841 my late colleague and teacher, Dr. G. H. Barlow, of Guy's Hospital, delivered the Gulstonian Lectures, having for their title "Diseases arising from Defective Expansion of the Lungs in Early Youth." The author illustrated this theme by examples of young persons who about the period of puberty exhibited symptoms of pulmo-

nary obstruction, and often of dropsy, and in whom there was found after death a narrow chest, small lungs, a corresponding small trachea, and at the same time a heart diminished in size and the mitral orifice much contracted in calibre. He believed that if any cause existed which tended to contract the chest, pulmonary expansion would be impeded, the lungs would become small, and the mitral orifice, through which passed a diminished stream, would become proportionally contracted. There can be no doubt that a very interesting series of cases was observed by Dr. Barlow, but I have long thought that his reasoning about them was incorrect. His facts with reference to the relation between the organs of circulation and the attenuation of the body generally were no doubt true, and opened up a subject of great physiological interest, but I

am inclined to think that in the majority of such cases as he described the prime cause was not to be found in the contracted chest, but in the heart itself. A valve simply diminished in size is sometimes met with, but according to my own experience this is very rare, the contraction being usually accompanied by some indication of a previous inflammatory process. It is a curious fact that in very many cases there is a corresponding narrowing of the tricuspid valve. This might appear to prove that an endocarditis had undoubtedly at one time been present, although on the theory of adaptation the narrowing of the two valves at the same time would not be so remarkable. Two or three years ago Dr. B. Fenwick brought before the Pathological Society a large number of cases of stenosis of the tricuspid valve, and in nearly all of them the mitral was similarly contracted. The fact is one of great interest as showing the relation between the orifices of the two sides of the heart, for even if a rheumatic endocarditis had been the starting-point for the change, I cannot but think the determination of the size given to the softened and contracting valve was fixed by and was a measure of the amount of blood passing through it. Now since stenosis of the mitral is only occasionally accompanied by a corresponding narrowing of the tricuspid, but a contraction of the tricuspid is nearly always associated with a similar condition of the mitral, it may be fairly argued that the one is dependent on the other. The explanation appears easy, since in most instances of stenosis of the mitral the blood is thrown back on the lungs and right side of the heart, so that the latter becomes large and the orifices retain their natural size; whereas in primary obstruction of the tricuspid, which allows only a small quantity of blood to pass into the right ventricle and lungs, a diminished supply is sent to the left heart, and in this way its cavities, with its orifices, would become reduced in size. If this is possible, there seems no reason why a primary cause in the lungs which diminishes the amount of blood circulating in them should not produce the same effect, and by such an argument we see a justification of Dr. Barlow's theory. I might here remark that my experience accords with that of Dr. Fenwick, that in nearly all such cases of narrowing of the auriculo-ventricular valves, and more especially when it occurs on the right side, the subjects are women.

The object of the present communication is to draw more particular attention to the fact that if mitral contraction occur at a very early period of life, whether as a primary affection or secondary to a corresponding narrowing of the tricuspid, other parts of the circulatory system become accommodated to it, and that the patient may reach adult life before the narrowing shall have produced any symptoms; or, as sometimes happens, such contraction may be found accidentally after death without a history of any cardiac symptoms whatever. I saw lately a lady of forty-five years of age, suffering from cardiac dropsy, who informed me that a mitral bruit was known to exist as long as she could remember; and she had grown up conscious of it as part of her being. In various ways the effects of heart-disease are different as occurring in the growing child and adult. After a marked endocarditis in the child, resulting in thickening and narrowing of the mitral valve, there may be observed great enlargement of the left auricle, with hypertrophy of the right side, becoming sometimes so great as to cause bulging of the chest. In these cases the pulmonary artery partakes of the hypertrophy of the ventricle, and is often found thicker than the aorta. Many years ago, when demonstrating this condition, I used to teach that in all probability the second sound of the heart was produced more by the pulmonary than by the aortic sigmoid valves, and this was before I became aware of the clinical fact pointed out by Skoda that the second sound was more accentuated over the pulmonary orifice in mitral disease. But in cases where there has been no history of endocarditis, although it probably might at one time have been present, where the valves have become contracted without much thickening, and therefore retained their efficiency, these secondary effects do not and need not occur. It is evident that the whole of the blood of the body coming back to the lungs and then passing again to the left side, is measured by the size of the mitral orifice. If this be small, the blood passing through it is diminished in quantity, and it becomes a gauge of the reduced circulation. The left ventricle is therefore small, and the whole heart correspondingly diminished in size. The lungs are small as well as the chest, and the respiratory process correspondingly lowered, and with this probably the whole body is impoverished; at all

events, the organism is working with a diminished amount of blood. I admit that these simple cases of narrowing are exceptional, for most frequently with the contraction there is some thickening which in course of years manifests itself by symptoms denoting an imperfection of the valve.

It is, however, the exceptional cases to which I wish to draw attention, those in which the mitral orifice, when narrowed, acts first by producing a diminished stream of blood, the amount in the system being measured by the small mitral orifice, and then, as before said, by a shrinking of other parts of the circulatory system. During the present year I have seen two such cases on the post-mortem table. One was that of a woman of middle age who had died of some long-standing disease of the brain. In her body was found a very small mitral aperture, admitting only the point of the finger, but having its edges pliable and in every way efficient as a valve. The ventricle was very small and the whole heart was diminished in size, proving that no obstruction or regurgitation had occurred at the mitral orifice. The lungs were not indurated, nor did they show in any way the congestive conditions so well known in heart disease where the blood has been impeded in its course, nor did the other organs display any indications whatever of analogous congestive processes. A very intelligent student expressed his surprise at the absence of the well-recognised conditions usually met with in obstructive mitral and other valvular diseases, and that there was not the slightest appearance in the body suggestive of stenosis of the valves of the heart. My answer to him was that there was no disease; the mitral orifice was smaller than natural, but an effective valve. The contraction had no doubt occurred at an early period of life, and so reduced the amount of blood, of which it was the gauge; that the whole heart became in consequence reduced in size, and an entirely new state of things set up. This condition is very different from what occurs when a person is full grown and becomes the subject of a stenosed mitral valve, but even then the prolongation of life is due probably in some measure to the reduced amount of blood in the system. This probably was the case in the example of the woman with dropsy before mentioned, who reached middle age before the condition arising in infancy produced any marked results. The fact is well known to all careful observers that a mitral bruit may exist for a great many years without the presence of any marked symptoms, and in such cases it is rightly said that the hypertrophy of the left auricle and enlargement of the right side compensate for the obstruction. This is no doubt true; but I wish also to show in this communication that in some cases the narrow mitral orifice cannot be looked upon in the light of disease; it has so modified the circulation in amount and caused all other parts of the system to conform to it, that a fair amount of health has existed during a lifetime. In such cases, in all probability, no bruit has existed, but merely an imperfect first sound.

CASE OF EXTRACTION OF THE BLADE OF A TOOTH- FORCEPS FROM THE RIGHT BRONCHUS.¹

By SIR WILLIAM MAC CORMAC.

PRISCILLA C—, aged twenty-four, a domestic servant residing at Barnstaple, was admitted on Nov. 23rd, 1885, into St. Thomas's Hospital, under the care of Sir William Mac Cormac. Seven weeks ago she determined to have several roots and teeth extracted previous to getting a new set of teeth. For this purpose chloroform was administered by Mr. Henry Jackson, of Barnstaple, on Oct. 13th, while she lay semi-recumbent upon a couch, the head being raised by pillows. Mr. Sanders, also of Barnstaple, extracted in succession the lower right wisdom tooth, five molar roots, one bicuspid root, and the upper right wisdom and upper right second molar teeth, ten pieces in all. A bicuspid forceps, one of Evrard's,² was then applied to the right upper second bicuspid tooth. Three outward and inward movements failed to shake the tooth, and the instrument

¹ From notes by Mr. W. F. Brook, dresser.

² Several dental surgeons who have seen the forceps are disposed to doubt that Evrard was the real maker, and from certain small differences in the forceps believe them to be a spurious imitation.