prove sufficient for this purpose. The optimum dosage has not yet been determined, but continuity of treatment is considered essential. When retention or severe obstructive symptoms necessitate a transurethral resection the opportunity is taken of removing the testicular substance and stilboestrol is withheld, to be used as a final measure if signs of reactivity manifest themselves.

Conclusion

The following table shows the different methods I have employed in a personal series of 310 consecutive operations for prostatic obstruction during the past two years:

Operations for Prostatic Obstruction, December, 1945, to November, 1947

Method of Operation	No.	Mortality
Retropubic prostatectomy	205 (7 2-stage)	15 (7.2%)
Prostatectomy by Wilson Hey technique	43	3 (6.9%)
Suprapubic prostatectomy	10 (9 2-stage)	0 (0%)
Transurethral resection	41 (19 malignant)	1 (2.4%)
Suprapubic cystostomy	11	1 (9.0%)

It may seem strange that no single operation has been universally accepted as a standard method for the relief of prostatic obstruction. The variety of operative measures is, however, not so surprising if the varied prostatic pathology and the differing physical status of the individual patients is borne in mind. Because of this, I believe it is undesirable that one should be exclusively devoted to a single operation which all our prostatic patients must submit to.

Having served an apprenticeship in the surgery of the prostate, extending over a period in which many fundamental changes have been introduced in the surgical approach to this problem, I have learnt that one must not be reluctant to admit the necessity for change. Suggestions which do not accord with established ideas should be viewed critically, but not with distrust. If a new technique seems indicated the change must be made, even though a major effort is required to alter course and master its accomplishment.

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LOWER-SEGMENT CAESAREAN SECTION

A NEW HEAD EXTRACTOR

BY

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Incision of the lower uterine segment for delivery was first proposed by Frank as long ago as 1907. It was not until many years later that it became a recognized procedure and its true advantages were realized. To-day these advantages have been proved. The lower-segment section, with its decreased maternal mortality and morbidity rates, has come to stay. Few classical operations are now performed in the world's great clinics, and some authorities have not performed one for many years. It may almost be said that, except in special cases, classical caesarean section should be regarded as malpractice. It seems surprising, therefore, that the technique of delivering the head in the so-called lower-segment operation is still far from perfect. This is shown by the many different methods in use to-day,

for in a tour of operation theatres each surgeon may be seen to use his own pet manoeuvres.

To my mind, delivery of the head has always been the most difficult part of the operation, especially for inexperienced surgeons. I have therefore tried to devise an instrument to simplify this procedure.

Methods for Delivering the Head

Several methods have been used for delivering the head—e.g., Willett's forceps, a single blade of the large obstetric forceps, Wrigley's forceps, small straight forceps, the operator's hand. I submit that each of them has its disadvantage.

Willett's Forceps.—The obvious disadvantage of scalp traction with Willett's forceps is damage to the foetal scalp. This may not be severe, but it is a circumstance to be avoided if better methods are at hand. Sepsis of the scalp may follow, and cases of *Clostridium welchii* infection with serious results have been reported. Furthermore, the lifting power on the foetal head, through the scalp, is not all that could be desired, and haemorrhage from the uterine incision cannot always be controlled by the upward pressure of the foetal head. Most operators have abandoned the use of Willett's forceps in favour of other methods.

Single Blade of Large Obstetric Forceps.—A single forceps blade is sometimes used as a lever to deliver the head. This method is unsatisfactory, as the lack of curve of the blade makes it extremely hard to introduce if the head is engaged. Again, if it can be introduced successfully the leverage is in the wrong direction, with resulting tears of the lower segment.

Wrigley's Forceps.—These are used by many surgeons at the present time. They are not completely satisfactory and are sometimes difficult to apply. The chief disadvantage is that, haemorrhage may take place while the head is being manoeuvred into position and the forceps are being applied—a procedure that can take a considerable time even with an expert operator.

Small Straight Forceps.—Straight forceps are generally easier to apply than Wrigley's forceps, but the disadvantage mentioned above still applies. Small straight forceps are perhaps the best method of delivery in use at present, but they are still far from the ideal.

Operator's Hand.—Many operators use their hand to scoop the head out of the uterine incision. In my experience it is always necessary to introduce four fingers and the whole of the palm of the hand into the uterus to get below the foetal head. It is a "blind" method of delivery and serious tearing of the lower segment may result, endangering the uterine vessels, no matter how carefully the manipulation is done. To onlookers the method appears clumsy, and the unnecessary introduction of the whole hand into what may be the infected area offends the principles of surgery.

The Extractor

An instrument fashioned like a forceps blade, which curves round the foetal head just above the symphysis pubis and gently lifts the head out of the uterus, would, it seemed, be ideal. It was soon found that a blade with the correct curve and a fixed handle was impossible to introduce owing to contact of the handle with the anterior abdominal wall thrown forward by the pregnant uterus. A blade with a detachable handle was therefore made and it worked successfully. Finally, the instrument described below with a handle that folds back on a double hinge was designed.

The instrument consists of a single fenestrated blade the shape of which is very similar to that in the ordinary midwifery forceps, except for an exaggerated cephalic curve. Immediately at the base of the blade is a double hinge built into the normal diameter of the shaft connecting the blade to the handle. The shaft carries a sliding sleeve which by a simple movement covers and locks the double hinge, thus

converting the instrument into one piece and making the blade rigid with the handle.

Technique of Operation

The abdomen is opened by a subumbilical incision in the midline. A self-retaining retractor is inserted and the operation area packed off with a gauze roll in the usual way. A 2-in. (5-cm.) transverse incision is made through the uterine wall where the loose peritoneum is reflected from the bladder. The lower edge of the uterine incision is grasped with a vulsellum forceps and raised from the foetal head. With the handle folded back the curved blade of the extractor, lubricated with "dettol" cream, is introduced between the lower edge of the incision and the head. As it slides round the head the handle is straightened out and the hinge locked.

The assistant now takes the extractor in his left hand and gently lifts the foetal head against the uterine wall. The sucker in his right hand keeps the field clear of liquor. The surgeon now enlarges the incision at either end with scissor snips, at the same time applying fundal pressure with his other hand. There is usually no bleeding, but any vessels that are seen to be cut may be clamped with de Martel's forceps to forestall haemorrhage when the head is out. When the incision is large enough the head is slowly delivered by fundal pressure and the lift of the extractor. The operation is then completed in the usual manner.

Before labour, when the head is not engaged, the whole procedure is extremely simple. Under certain conditions modifications of the technique may be necessary. If during labour the bladder is raised on the lower segment the peritoneal reflection is incised separately and the bladder pushed down before the uterus is incised. If the head is deeply engaged in the pelvis it may be necessary to disimpact it by inserting two fingers into the uterus and pushing the head up before the extractor can be introduced. While the fingers are holding the head the extractor is introduced between the fingers and the lower edge of the uterine incision and slid into position before the fingers are withdrawn.

Once the extractor is in place the operator's difficulties are over. If the head lies in the transverse position it is turned to an occipito-anterior or, should it be easier, to an occipito-posterior position, when the foetal chin is slipped over the upper edge of the uterine incision and the head eased out with the extractor as a "face presentation."

Advantages of Extractor.—(1) The most striking advantage claimed for this instrument is the absence of haemorrhage during delivery of the head. Consequently the uterine incision can be enlarged bit by bit, the whole time under direct vision. The incision is therefore never made unnecessarily large. (2) Tearing the uterus should not occur, as delivery is slow and under complete control. Under these conditions unsuspected damage to the uterine vessels should be impossible. (3) If difficulty is experienced in turning the head it can be lifted out in any position. This is not possible when delivering with forceps, as they cannot be applied if the head lies in the transverse diameter. (4) The foetal skull is subject to a minimum of pressure, which is probably less than that of normal labour. Head injuries should therefore be extremely rare. This is not always so after a hurried delivery by the operator's hand or the small forceps. (5) With the use of the extractor the operation becomes a neat surgical procedure. This cannot be claimed for most other methods of delivery in use at present.

Discussion

The instrument has now been tested in over a hundred cases. When the head is not engaged it has been found universally satisfactory and easy to introduce. If the head is low a little practice is needed to introduce the extractor successfully, but it is found that the head can nearly always be raised enough to make this possible, though it may be necessary to enlarge the uterine incision. The extractor has not been tested in extraperitoneal section, as since penicillin has been in good supply I have not used this method, but it might prove a useful adjunct in this operation.

This report is published in the hope that the extractor will be tried out and improved by others, and that its routine use may simplify what most surgeons still regard as a difficult manoeuvre.

Summary

A new head extractor for low caesarean section is described. Other methods of delivering the head are discussed.

The technique of using this instrument is described, with the modifications necessary in certain circumstances.

Advantages claimed for the extractor are listed.

(The instrument was made by the Surgical Division of Allen and Hanburys (Africa) Limited, and will be obtainable through Allen and Hanburys, Wigmore Street, London.)

PAPILLOMATA OF BLADDER TREATED WITH PODOPHYLLIN PRELIMINARY REPORT

BY

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In 1942 Kaplan reported a series of cases of genital warts successfully treated with a suspension of podophyllin in mineral oil. The application of this drug to meatal and urethral papillomata revealed an apparent resistance of normal transitional epithelium to its caustic action; this suggested the possibility of its use in treating papillomata of the bladder. After a preliminary investigation a suspension of the drug in liquid paraffin was used in the following cases.

Case Reports

Case 1.—A man aged 73 had had haematuria for several months, which had been severe for the last 13 days. Cystoscopy showed numerous large papillomata involving the right