

KIELLAND'S FORCEPS—AN EASY AND SAFE TECHNIQUE

by

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Much has been written in the past about the advantages and disadvantages of Kielland's forceps for rotation and delivery of the head. The author believes that, properly used, this type of forceps is a safe, precise and efficient instrument for correcting malrotation of the occiput and the chin causing delay in the second stage of labour, and carries the great advantage that in the majority of cases delivery can be accomplished quickly and without general anaesthesia. However, application by the "Wandering Method" now widely advocated by most authors (Hunter, Holmes, Jones) is not always easy, and this report describes a new method, which is considered to be both easier and safer.

The characteristics of the "Wandering Method" are:

(1) Application of the anterior blade first. (2) Preliminary full insertion of the anterior blade over the face prior to the long "wander" that eventually brings it to lie anteriorly. (3) Then the application of the posterior blade.

The author's method differs in that:

(1) The posterior blade is applied first. (2) The anterior blade is

partially applied over the forehead prior to a short rotation, and full application is made only after the blade has been rotated so as to lie over the temporal region and the zygomatic arch.

The details of the new method in cases of deep transverse arrest (left occipito-transverse position) are as follows:

(1) *The position of the patient:* The patient is placed in the lithotomy position with the buttocks overhanging slightly and the thighs wide apart. (2) *Analgesia:* In the majority of cases analgesia by pudendal block is sufficient. (3) *Episiotomy:* Although there has been much discussion as to when this should be done, the author believes that if indicated it should be carried out *before* applying the forceps. (4) *Assembly of the blades:* The blades are assembled in front of the patient and held exactly in the position which they will occupy after application to the head in the pelvis (Fig. 1). The anterior blade

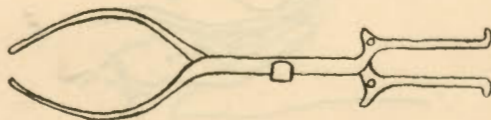


FIG 1

The blades of the Kielland's forceps held in front of the patient with the knobs directed towards the occiput.

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is then temporarily laid aside. (5) *Application of the posterior blade:* This should be introduced first and the application is made easier by the fact that no space is as yet occupied by the anterior blade. The application is usually by the direct method. The blade, held in the right hand, is pushed over the temporal region to lie over the zygomatic arch and the malar bone, while the fingers of the left hand act as a passive guide (Fig. 2). After the application, the shank lies in contact with the perineal body. (6) *Application of the anterior blade:* This blade is applied as follows (in left occipito-transverse position):

The handle of the anterior blade is held like a sword in the right hand (Fig. 3), with thumb applied to the distal part of the handle and the fingers around the proximal part of the handle. Some, or all the fingers, of the left hand, palmar surface towards the head, are placed in between the forehead and the vaginal

wall *merely* to keep the vaginal wall away from the head, during the subsequent movement of the blade, which is placed parallel to the sagittal suture and over it, with the tip of the blade touching the forehead (Fig. 4). (N.B. The tip of the blade is not introduced deeply over the face). The handle is then swung downwards through 90° by a sweeping movement (Fig. 5), so that the blade comes to lie over the temporal region and the zygomatic arch. This movement is accomplished with the right hand alone, the fingers of the left hand remaining passive. This movement is quick and easy and requires no force. The blade is then pushed directly inwards over the malar bone (Fig. 6) and its shank can then be locked with that of the posterior blade previously applied.

Any asynclitism present can then be corrected, and rotation of the head, so as to bring the occiput anteriorly, is accomplished in the usual way (Fig. 7).

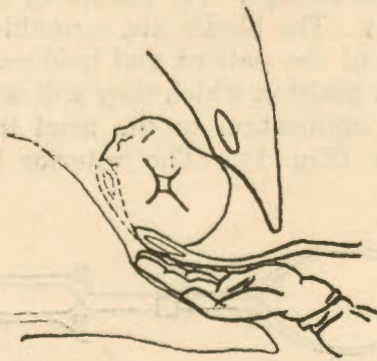


FIG 2

Application of the posterior blade with the internal fingers as a passive guide.



FIG 3

The handle held like a sword with the thumb applied to the distal part of the handle and the fingers around the proximal part of the handle.

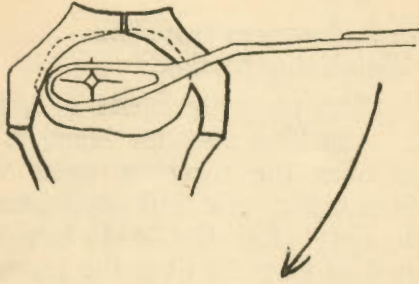


FIG 4

Fig. 4

The tip of the anterior blade touching the forehead and almost parallel to the sagittal suture and over it, before the actual sweeping movement starts. Arrow showing the sweeping movement of 90° by the external hand.

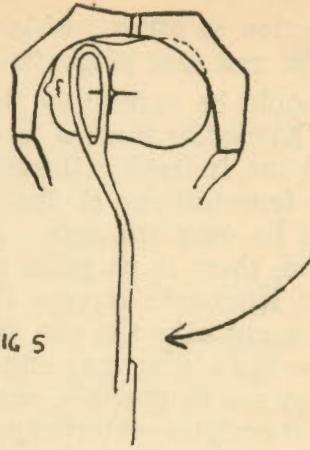


FIG 5

Fig. 5

The tip of the anterior blade is over the temporal region and zygomatic arch, after the sweeping movement of 90°.

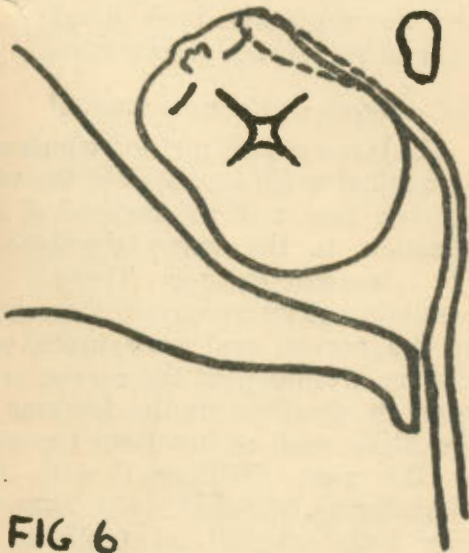


FIG 6

Fig. 6

The anterior blade pushed over the malar bone.

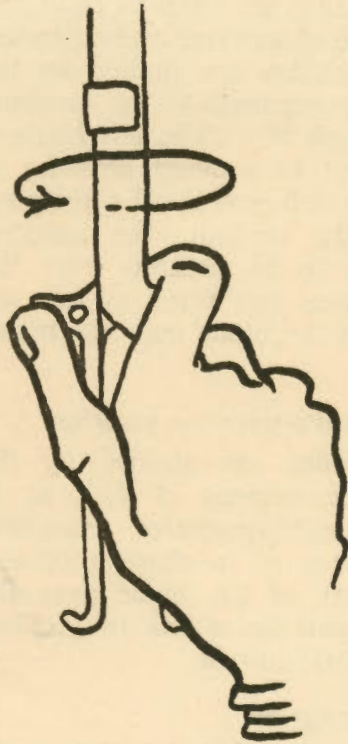


FIG 7

Fig. 7

Movement of rotation.

Application in other positions of the vertex and face presentations

It should be noted that the blades of the Kielland's forceps lie over the malar bone, in front of the ear whereas the fenestrations of the ordinary forceps lie over the ears. If this is accepted, there is no point in applying the Kielland's forceps like ordinary forceps over the ear, for if this is done, the blades may slip or rotation may not be possible, particularly in direct occipito-posterior positions.

Direct occipito-posterior position

The principle of the method of application is the same as in left occipito-transverse position previously described. The only difference is that the blades are labelled right and left in place of anterior and posterior, and *both* blades are applied by the sweeping movement of the external hand through 90°. The left blade is applied first to prevent crossing of the shanks although in all *right* positions of the occiput, the anterior shank has to be crossed over the posterior one just prior to full application of the blade over the malar bone.

Direct occipito-anterior position

Both blades are applied by the sweeping movement of 90°, as in direct occipito-posterior position, each starting, as in other positions, with the tip of the blade over the forehead, and the shank in the line of the sagittal suture.

Face presentation

Again, the tip of the blade is applied initially over the forehead, with the shank lying almost parallel and

over the line joining the chin and the forehead.

Main Differences from the "Wandering Method"

(1) The posterior blade is applied first. (2) The anterior blade is applied over the forehead prior to a short rotation, and full application is made only after the blade has been rotated so as to lie over the temporal region and zygomatic arch. The blade is then pushed inwards over the malar bone. (3) The fingers of the internal hand remain passive and are not used to influence or direct the blade of the forceps, which is controlled throughout by the external hand. (4) The tip of the blade is always over the forehead and the shank is always almost parallel to the sagittal suture and over it. The handle is swung through 90° by a sweeping movement so that the blade comes to lie over the temporal region and the zygomatic arch, in all positions of the vertex presentation.

Advantages of the new method

(1) It is a simple method which can be applied to all positions of the vertex and face, and the method of application is the same throughout. (2) It is a safe method. There is less possibility of lacerations of the vagina or the cervix, and very much less chance of entangling the cervix, arm, hand or shoulder in the fenestra of the blade such as has been reported in the past (Williams) with the "Wandering Method". (3) There is very little internal manipulation as the blade is controlled only by the external hand. (4) The application of the posterior blade is made much

easier by the fact that it is applied first and it does not hinder the application of the anterior blade.

Results

This new technique has been used in 40 consecutive cases of malrotation of the occiput and one case of persistent mento-posterior position, which include two cases of compound presentation and three in which the cervix was not quite fully dilated.

In the series there were 28 primigravidae and the babies' birth weight varied from 6 to 10½ lbs, and 37 were delivered without general anaesthesia.

In no case was there any difficulty in application of the blades, or in rotation of the head and there was no injury to the mother or baby, and no perinatal mortality.

Summary

A new method for the application of the Kielland's forceps is described and its advantages are discussed.

Acknowledgement

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