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NOTE ON THE AFTER-TREATMENT OF SYMPHYSIOTOMY—THE TROUGH OR GUTTER VS. THE GIRDLE.

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SINCE reading my paper on "Symphysiotomy; Joint Apposition by Sling from Ceiling," before the Obstetric Section of the Academy of Medicine, in December, 1898,* a look into the literature seems to show that the French tendency is toward machinery devised to make pressure on the iliac crests and trochanters in order to close the gaping symphysis, whereas at least four American writers favor the trough or gutter principle of compression. By the trough I mean lateral pillows or sandbags, on which the patient lies in such fashion that her weight tends to force the joint surfaces together, or else suspension in a sling that makes use of the same principle.

THE GIRDLE.

The English reporter of Pinard's lecture says—and it is from this report that one error arises—"After describing the technique of the operation proper, Pinard alludes to his bed in these words: 'After this, the legs being brought together and held by a bandage, the woman is placed in a bed which I have had

* See OBSTETRICS, Vol. I., No. 1.

† Symphysiotomy at the Clinique Baudelocque during 1892. A lecture delivered Dec. 7, 1892, and reported for the London *Lancet*, Feb. 1, 1893.

made—a bed which by means of two lateral and concave tampons enables the pelvic bones to be placed in constant apposition—or in Bonnet's gouttiére. This is possible in a hospital, but perhaps impracticable in domestic practice.

"'The superiority of my bed or of Bonnet's gouttiére consists in the facility with which the entire body can be raised without causing the least movement of the pelvis.'"

Bonnet's gouttiére,* to which reference is made, is an apparatus for immobilizing the hips. It is a solid gutter, which embraces both the thighs and pelvis. The form is that of elongated drawers or trousers, the peripheral end being elevated, with an opening in front which may be widened or narrowed at pleasure (by straps and buckles). The framework is of iron wire, very solid behind and finer in front. It is covered by a thick layer of horse-hair, and this in turn by strong ticking. At the sides of the gutter, at the level of the crest of the ileum and knees, are solid iron cross-bars which end in buckles, whence issue four cords which traverse a pulley arrangement attached to the ceiling, by means of which the patient can readily raise himself.

Ribemont-Dessaignes and Lepage† say, "The best mode of immobilizing the iliac bones is the application of either the girdle constructed for Pinard by Collin, or Guéniot's girdle. It is further useful to bind the legs together, midway along the thighs and above the tibio-tarsal articulation.

"The woman is carried to her bed, upon the surface of which is Dupont's or Herbet's 'elevation-bed,' which can be raised and lowered. This arrangement permits the excreta to be readily attended to and facilitates dressing the wound."

Guéniot's apparatus,‡ which he calls the iliac compressor, is intended to ensure the contact of the pubic bones after symphysiotomy. It is intended to firmly approximate the disconnected bones and to facilitate their union.

But it also fills two secondary offices of some service. It serves to elevate the patient so that cleanliness is facilitated,

* Traite de therapeutique des maladies articulaires. Paris, 1853; p. 684.—J. B. Balliere, p. 417.

† Precis d'obstetrique.—G. Masson. Paris, 1894; p. 1308. Section on symphysiotomy, p. 1185.

‡ Compresseur Iliaque pour la Contention des Pubis apres la Symphysiotomie. Paper read by Gueniot before the Obstetrical and Gynecological Society, Paris, Mar. 9, 1893. Reperoire [Nouv. Arch.] d'Obstetrique et de Gynecol., 1894, p

and also keeps the bed coverings from coming in contact with the wound.

In a recent case of symphysiotomy the iliac compressor has seemed to be far superior to Bonnet's gouttiére, which the author had used in a similar instance. In simplicity of action and power of compression, he thinks it will render real service to accoucheurs, while the surgeons will doubtless find it of benefit in the treatment of certain fractures of the pelvis and thorax.

The compressor is composed essentially of two fenestrated metal plates, one to be applied to each side of the pelvis. Each plate measures about 15 cm. in length by 12 cm. in width. The inner face is slightly concave, to be better adapted to the hips. The plates are connected behind by a strap and buckle, which may be tightened at will. On the outer surface of each plate, near the posterior border, there is a metallic spring which is both supple and resistant, ribbon-shaped and directed straight ahead. These springs, united in front by a strap, are bent toward each other to the degree desired to produce a concentric pressure over the iliac bones. Owing to this bilateral pressure, which may be graduated by means of the strap, the pubic bones are maintained in contact and kept completely immobilized.

In order to prevent the pain which may be caused by the apparatus, a thick layer of cotton is place over the hips, and these in turn are covered by a gutta percha plate 16 cm. by 12 cm., and the metal plates then super-imposed.

It will be an advantage if the metal plate overlaps the gutta percha behind by at least 2 cm., and reciprocally the gutta percha should project beyond the metal in front. When the gutta percha is warmed by the body, it moulds itself to the inequalities, and the pressure is thereby distributed so that the patient is not inconvenienced.

This done, a cord attached to each of the metal plates furnishes a ready hold by which a patient may be raised for the purpose of cleanliness, while the bedclothes are kept at a distance from the wound by the anterior extremities of the springs and the strap which joins them.

The author speaks of his most recent case of symphysiotomy, which recovered promptly, lactation having gone on in

the meantime. Operation Dec. 22, 1892. Left Maternity Jan. 14, 1893, in good condition, child healthy.

In the discussion, Budin said that he had made use of rubber bands after symphysiotomy, but that the pressure became too severe after a time. Once after three days edema of the legs set in, and at another time two small lateral eschars formed. The thickness of the bands ran about 1-25 to 1-15 inch. A thick layer of cotton under the bands might have prevented these accidents.

Olivier had used these bands without trouble following. He applied gauze first beneath the bands.

Guéniot, in closing the discussion, said he had tried several methods of compression with success, but that his compressor was superior to all for reasons already given.

In an article by Dr. Garrigues on symphysiotomy in the *Medical Record*, Nov., 1894, xlvi., 577–580, he speaks of "Pinard's special bed" and its hollow cushions. He gives as a reference Pinard's article on symphysiotomy in the *Annales de Gynecol., Fev.*, 1892, but on reading it through, I find only the following:

"It is evident that it will be necessary to enforce during cicatrization the immobilization of the pelvis, either by a girdle, or plaster, or by some mechanical apparatus—Bonnet's gouttiére, etc."

In trying to find the description of Pinard's bed, every report on cases of symphysiotomy which he has published has been searched. The English report of the lecture gives a line to the "bed," speaking of concave tampons, and this seems to be the origin of the reference of Dr. Garrigues. That Pinard has no symphysictomy bed is shown by a letter just received.

In a personal communication from Prof. Pinard, dated Paris, March 8, 1899, he says that he has no special bed on which to place patients after symphysiotomy. He put them simply on a bed which was constructed by Herbet, and which allows ready lifting of the individual. As to the means of retention which he employs, it is a metallic belt provided with two concave compresses intended to be applied over the iliac bones. This girdle was made by Collin, manufacturer of surgical instruments, Rue de l'Ecole de Médecine (Paris). Herbet's bed goes by his own name in the literature.

THE TROUGH OR GUTTER.

The "Practice of Obstetrics by American Authors," by Dr. Charles Jewett, Lea Brothers, Philadelphia, 1899, on page 742, has reproduced Garrigues' error in Hunter Robb's article: "Pinard uses a gutter-shaped bed or mattress, and places cushions under the lateral halves of the body. Jewett and others adopt practically the same method, using an ordinary rather hard mattress and keeping the patient on two firm cushions placed under the lateral halves of the pelvis and extending nearly to the shoulders."

The simplest of all devices, and the one likely to occur to the early operators, is the trough or gutter. Dr. Jewett has the distinction of doing the earliest American symphysiotomy, and the backwoods claims endorsed by the late Dr. R. P. Harris and exploded by Dr. Jewett are, on the face of them, grossly improbable. His use of the trough principle is therefore important.

Zweifel, at the end of his paper in the *Centralblatt für Gynekologie*, Nov. 5, 1892, xvi., No. 44, page 857, merely says that some suspension apparatus is almost indispensable.

"In order to keep the pubic bones in apposition after symphysiotomy, Tarnier* uses a belt of India rubber covered with linen. The belt is placed under the loins of the patient and is suspended by cords that cross upon the bed and pass through pulleys attached to the frame of the bed. By attaching weights to the cords the pressure on the iliac bones may be increased or diminished at will. This apparatus permits the patient being moved about in the bed."

Herein Tarnier has anticipated Dr. Ayers' bed sling and my ceiling sling, although both Ayers and myself developed our schemes independently of Tarnier. Ayers' plan is the complete one, mine the handy one with restricted means.

In the *Medical Record* of November 25, 1893, I published a report of a case in which the trough bed was mentioned as a simple method of bringing the joint surfaces together. The patient was delivered June 11, 1893:

"By laying a long and moderately hard pillow along each side of the mattress, and placing the rubber sheet and other sheets above it, one may readily construct a trough or

* La Sem. méd., No. 41, 1895. Congrés periodique de Gynecologie, d'Obst. et de Pédiatrie. I. Session. Bordeaux, Aout 1895, Paris. Octave Doin. Page 545.

gutter in which a patient will lie in such a fashion that the weight of the lower part of the trunk and of the thighs is taken on the iliac crests and the trochanters. The legs are thereby in-rotated, the knees pressed together, and the tendency to separation of the symphysis is overcome, as it occurs when the weight of the body is borne on the sacrum. In this way bed sores are less liable to occur, and there is a little room for the bed-pan to be slipped beneath the patient, while the inward pressure still continues. If the patient moves or tries to twist the body, the sloping sides of the trough, slippery on account of the rubber sheet over the pillows, keeps the pressure in the desired direction. In combination with adhesive plaster strips or a binder, this method gives us good approximation of the surfaces without expensive machinery or apparatus requiring skilled care. The special girdles that have been devised and the plaster splints are rapidly soiled by the discharges. A binder requires constant tightening and, alone, is insufficient security. Even the use of adhesive strips has its drawbacks in action, because, if a strip is placed about the patient at the level of the trochanters, it prevents cleaning between the buttocks; whereas if it is placed about the iliac crests, it crosses the hypogastrium, where the pressure is liable to squeeze the bladder wall or the peritoneum above the bladder into the joint, should the joint gape during the motions of the patient."

"The full description of Dr. Ayers' bed may be found in the *American Journal of Obstetrics*, July, 1897. Its construction is simpler than a first glance at the pictures would indicate, and for hospital operations it forms the ideal device. It is easily set up in private houses.

In "A Text-Book of Obstetrics," Saunders, Philadelphia, 1898, B. C. Hirst states his practice:

"A firm binder is placed about the hips, and the woman is put in bed straight upon her back, upon an even mattress, which should be firm enough not to allow of sagging where the woman lies upon it.

"It is an advantage to separate the sides of the pelvis with sand bags during the woman's convalescence. These should be placed directly alongside the hips, extending at least to the knees.

"The after-care of symphysiotomy is exceedingly trouble-

some. The patient must usually be catherized, and much care exercised to keep the vulva and the surrounding regions clean. This is best done by slipping a bed-pan under the woman's buttocks and rinsing off the external genitalia two or three times a day with a weak solution of bichloride of mercury. A slip sheet should be placed over the sand bags and under the woman's buttocks. The knees must be kept bound together, and the woman must lie quietly upon her back for at least three weeks. If it becomes necessary to disinfect the parturient canal during puerperal convalescence, the legs should be raised straight in the air, without separating them or without bending the knees. A bed-pan is then slipped under the woman's buttocks, and the physician can carry out curetment and intrauterine douching with comparative convenience."

That the after care of these cases seems less troublesome to others than to Dr. Hirst may be due to better methods of lifting patients than his, or to the use of a retention catheter. A sling saves much labor.

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