Twice Folded Flap—
A Method for the Treatment of Hypospadia

A. Massei and G. Ubiglia

Plastic Surgery Unit (Head: Prof. Dr. Paolo Santoni-Rugiu),
St. Chiara University Hospital, I-56100 Pisa, Italy

Summary. The authors describe a method for use in distal and middle penile hypospadia repairs; a ventral penile skin flap, used to reconstruct the urethra, provides a distal portion that is an easy and safe covering in the glans area. 106 cases have been operated on: 3 developed fistulas, and 4 glans suture break-down. The results have proved to be excellent, both from an aesthetic and a functional point of view.

Key words: Hypospadia—Urethroplasty.

The method suggests for the urethroplasty the use of a flap which consists of two parts: a first one provides lining to reconstruct the urethra according to Mathieu [2] and to Santoni-Rugiu [3, 4], the raw area thus resulting on the glans is covered by the second part of the flap, which is twice folded; this second part is the original idea in the method described.

The authors have been using the method since 1972 in more than 100 cases and published a preliminary description in 1973 [4]. The follow-up of 5 years experience with good results confirms the validity of the method.

Indications for Surgery

The method is recommended in distal and middle penile hypospadia repair: on the contrary, the method cannot be employed in cases of veil-like distal urethra, since the pedicle of the flap cannot be planned on too thin skin, because of low vascular supply to the flap. The skin to be used for the flap must be completely hairless. In some cases, probing the urethra, vessels can be seen radiating out from the meatus opening and turning towards the penis base: the flap is the safest in these cases and can be planned even longer than usual.
Fig. 1 a–c. a The flap consists of a part C, which is not to be raised, a part A, which is as long as the missing part of the urethra, and a part B, as long as the glans. b The flap begins to be raised. c Section showing the depth of the incision

Fig. 2 a–d. a The flap, raised, is folded the first time. b The part of the flap providing the new urethra is sutured. c The excess part of the flap is folded the second time. d The section shows the roof-like situation of the flap

Surgical Technique

From the glans tip to the meatus level two longitudinal parallel cuts through the skin are made (Fig. 1 a).

The incisions continue proximally, deviating laterally slightly, and thus including a skin strip one third broader than the strip distal to the hypospadiac meatus, and slightly longer than the latter. The incisions continue, gradually