Short hospital stay versus day-care Mathieu hypospadias repair

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ABSTRACT

Objective: This study compared the outcome of Mathieu repair between patients who went home within 24 hours on catheter and dressing and patients who were managed in hospital for 48 hours and had their catheters and dressings removed before going home. **Patients and Methods:** A retrospective study of Mathieu hypospadias repair performed by the same surgeon for 11 years. Outcome measures were catheter and dressing related problems/complications. **Results:** Sixty five patients were included in the study; 43(66.2%) were managed in-hospital for the first 48 hours (Group A), while 22(33.8%) were managed as day-care cases (Group B). Complication rate was 6(14.0%) and 3(13.6%) respectively, with fistula rate of 2(4.7%) in Group A and 1(4.5%) in Group B. **Conclusion:** Day care Mathieu repair of hypospadias does not increase the occurrence of complications.

Key words: Mathieu repair, hospital stay, complications

INTRODUCTION

Majority (50-70%) of distal (anterior) hypospadias can be repaired by the Mathieu method.[1,2] Early postoperative management of hypospadias is as crucial as the surgery itself. The proper post operative management after Mathieu repair of hypospadias in children continues to be a source of debate. Some believe that dressing was essential to stabilize the wound, prevent bleeding, reduce swelling and prevent interference and contamination.[3,4,5,6] Others reported that there was no benefit in dressing these wounds.[7,8] Similar arguments exist with regards to urinary diversion.[9-11] The policy in our centre before now was to routinely catheterize and dress and admit these patients for the first 48 hours after surgery. However, if there were no concerns postoperatively and parents are motivated, patients may go home within 24 hours and returned at 48 hours for removal of catheter and dressing.

The aim of the study was to compare the management difficulties and complications in patients who had Mathieu repair on day-care basis with those who spent the first 48 hours in the hospital.

PATIENTS AND METHODS

Between February 1995 and January 2006, 65 patients had Mathieu repair for hypospadias at Norfolk and Norwich University Hospital UK. The hospital records of these patients have been retrospectively reviewed. Silastic foam was used as dressing until 1998 when Allevyn® (Smith + Nephew) became available to the hospital and was adopted in most of the subsequent dressings [Figure 1]. The patients who had Mathieu repair were divided into two groups: those who stayed in hospital for the first 48 hours (Group A), and those who went home within 24 hours (Group B). Data obtained



Figure 1: Allevyn Penile dressing- easy to remove

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from the notes and analysed were type of hypospadias, type of repair, age at date of surgery, duration of hospital stay post operatively, type of dressing used, problems related to catheter or dressing, and findings at follow-up clinics.

RESULTS

A total of 97 patients had hypospadias surgery; of these 65(67.0%) had Mathieu repair. Twenty four (36.9%) of the 65 patients were between the age of 6 and 12 months, 13(20.0%) were aged 13-18 months and 16(24.6%) were aged 19-24 months [Table 1]. The hyposapdias in these 65 patients who had Mathieu repair were coronal in 38(58.5%), subcoronal in 17(26.1%), and glanular in 10(15.4%). Twenty-four (36.9%) of the 65 patients had repair by the age of one year and 5(7.7%) after the age of 3 years (median age at repair 13 months). Fourteen (21.5%) patients had silastic foam dressing and 51(78.5%) had Allevyn® dressing.

Patients were classified into two groups [Table 2]. Group A comprised 43 (66.2%) patients managed in-hospital for 48 hours, and group B consisted of 22(33.8%) managed as day-cases. In Group A, 2 patients had blocked catheters, one of which required general anaesthetic to re-insert. The dressing either dislodged or got soiled and needed changing in 4 patients [Table 3]. The overall incidence of these problems in this group was 7(16.3%).

In Group B, there was need to change dressing because of soiling in 2 patients but this did not require general anaesthetic (an overall problem incidence of 2 (9.0%). One patient each developed urethro-cutaneous fistula and reactionary haemorrhage in Group A. Whereas in Group B, one (4.5%) patient developed urethro-cutaneous fistula and another had a stitch granuloma. The overall incidence of complications was 6(14.0%) in Group A and 3(13.6%) in Group B [Table 3].

The overall incidence of problems and complications was 28.6% in silastic foam dressing and 27.5% in Allevyn® dressing [Table 4].

In the average follow-up period of 3½ years, no patient had flap breakdown, meatal retraction, meatal stenosis, or urethral stricture.

DISCUSSION

In the early postoperative period following a Mathieu repair, the management of patient should encompass control of pain, care of the urinary catheter and wound dressing. These are particularly important to reduce the

Table 1: Distribution of types of hypospadias in the various age groups who had Mathieu repair

	Age (months)					
Type	**6-12**	**13-18**	**19-24**	**25-36**	**>36**	**Total (%)**
S-coronal	10	3	3	1	--	17(26.1)
Coronal	13	8	10	4	3	38(58.5)
Glanular	1	2	3	2	2	10(15.4)
Total	24(36.9)	13(20.0)	16(24.6)	7(10.8)	5(7.7)	65(100)

Table 2: Age distribution of patients in the two study groups (Group A: 48-hour stay, Group B: 24-hour stay)

Age (months)	Group A (%)	Group B (%)
6-12	16(37.2)	8(36.4)
13-18	9(20.9)	4(18.1)
19-24	11(25.6)	5(22.7)
25-36	4(9.3)	3(13.6)
>36	3(7.0)	2(9.0)
Total	43(100)	22(100)

Table 3: Incidence of postoperative management problems and complications in 2 study groups (Group A: 48-hour stay, Group B: 24-hour stay)

	Group A n=43 (100%)	Group B n=22 (100%)
Problems		
Catheter related:		
a. Fell off	-	-
b. Blocked	2(4.7)	-
c. GA* required	1(2.3)	-
Dressing related:		
a. Fell off	1(2.3)	
b. Changed	3(7.0)	2(9.0)
c. GA* required	-	-
Overall problems	7(16.3)	2(9.0)
Complications:		
Haemorrhage	1(2.3)	-
Stitch granuloma	-	1(4.5)
Fistula	2(4.7)	1(4.5)
Flap breakdown	-	-
Meatal stenosis	-	-
Meatal retraction	-	-
Redundant skin	3(7.0)	1(4.5)
Overall complications	6(14.0)	3(13.6)

*General anaesthetic

Table 4: Silastic foam dressing vs Allevyn dressing

Dressing	Group A n = 43	Group B n = 22	Problems/ complications		Incidence
Silastic foam n = 14	8	6	Blocked catheter	2	4(28.6%)
			Stitch granuloma	1	
			Haemorrhage	1	
Allevyn n = 51	35	16	Dressing. fell off	1	14(27.5%)
			GA for catheter change	1	
			Changed dressing	5	
			Fistula	3	
			Redundant skin	4	

stress to patient and for improved outcome. With the current use of caudal anaesthesia and oral paracetamol, pain control in the postoperative period has not been a problem in our experience. Presently, therefore, our emphasis has been on dressing and catheter management.

In the present report, there was no increase in the incidence of complications or problems related to dressing and catheter in patients who went home within 24 hours.[12,13] We have a lower fistula rate in both groups (4.7% in A, 4.5% in B) when compared to fistula rates of 10-20% in other reports. Again, the incidence of management problems and complications does not appear to be related to the age of the patients.

In our setting where both medical and surgical patients share a common ward, a potential sub-optimal care for patients who stayed in may be a consequence, especially when the nurse has limited experienced with the management of such patients, or there are too many patients to attend to. Thus the day-care patients may receive a better attention to their dressing and catheter if the parents are well informed on postoperative care. We hope to explore the extended role of our outreach nurse specialist to visit these patients at home to remove the dressing and catheter after 48 hours because the allevyn dressing is user-friendly that requires no sedation for its removal. As the postoperative care can be shifted to home based without incurring higher complication rate, the Mathieu repair could well be suitable as a day case procedure.

Modifications have been made in the wholistic approach in Mathieu Hypospadias repair over the years. Adapting the Denis Browne ring retractor as a method of stabilizing the penis intraoperatively has enhanced our speed, finesse and results.[14] Our earlier studies in 1995 made us prefer urethral drainage rather than suprapubic drain.[15] Wheeler *et al* [8] reported a high incidence of immediate dysuria and subsequent fistula rate following a day case Mathieu repair with no urinary diversion.

In conclusion, in-hospital management has no advantage over day-care management following Mathieu hypospadias repair.

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Erratum

This article was published in vol. 4 issue 2 of Africa Journal of Paediatric Surgery, in which the tables were erroneously omitted. The present article is the corrected version.