Buccal mucosal grafts for urethroplasty: comparison of postoperative oral and perineal morbidity

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ABSTRACT

INTRODUCTION A prospective study of postoperative oral and perineal pain experienced by a group of patients undergoing buccal mucosal graft harvest for urethral reconstruction.

PATIENTS AND METHODS A consecutive group of 24 male patients undergoing buccal mucosa graft harvest for urethral reconstruction of stricture disease was prospectively studied between June 2006 and December 2008. All patients were examined pre-operatively and entered into the study prospectively. After surgery, all patients were reviewed at 24 h and 48 h. On both occasions, they were asked to complete a proforma containing visual analogue pain scales for both the oral donor site as well as the perineum.

RESULTS A statistically significant higher level of pain was experienced from the perineum than the oral donor site on both the first and second postoperative days.

CONCLUSIONS Comparative analysis of visual analogue pain scale scores between oral donor site and perineum showed that patients experience significantly more pain from the latter postoperatively.

KEYWORDS

Buccal mucosa graft – Urethroplasty – Postoperative morbidity

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Since the initial reports of the use of autologous free buccal mucosal grafts for the reconstruction of urethral strictures in men,^{1,2} there has been considerable evidence establishing reliability of this technique. The surgical technique and morbidity at the donor site have also been described.^{3–6} Buccal mucosa gives excellent results because it has a high capillary density, is resilient and is also easily harvested. Despite the common belief that pain from the harvest site is the main source of early postoperative morbidity, unfortunately there have been no reports comparing this between the oral donor site and the perineum. In this analysis, we prospectively studied the postoperative oral and perineal pain experienced by a group of patients undergoing buccal mucosal graft harvest for urethral reconstruction.

Patients and Methods

A consecutive group of 24 male patients undergoing buccal mucosa graft harvest for urethral reconstruction of stricture disease was prospectively studied between June 2006 and December 2008. All patients in the study had grafts harvested

by the same surgeon (RAL) using a technique described previously.⁶ Urethral reconstruction was also performed simultaneously by a single surgeon (IE) in all patients. All patients were examined pre-operatively and entered into the study prospectively. After surgery, all patients were reviewed at 24 h and 48 h. On both occasions, they were asked to complete a proforma containing visual analogue pain scales for both the oral donor site as well as the perineum.

Results

Table 1 shows the visual analogue pain scores for each patient for both the oral donor site as well as the perineum, recorded on the first and second postoperative days consecutively. The difference in pain scores between mouth and perineum on both days was analysed statistically using the Wilcoxon signed ranks test. This showed a higher level of pain experienced from the perineum than the oral donor site, which was statistically significant ($P < 0.001$). In addition, this was reflected on both the first and second postoperative day results.

Discussion

Oral mucosal graft harvesting is a safe and reliable procedure with minimal morbidity, and buccal mucosa is the preferred donor site in most cases. Since the first reported use of buccal mucosa in urethroplasty for adults, increasingly more urologists are using the technique. Indeed, since the mid-1990s, buccal mucosa has been used more often than penile skin.⁷ Visual analogue pain scales (VAS) have been shown in published data to be an effective and reliable means to evaluate subjective stimuli such as pain.⁸ Although these have been used in previous reports to study oral morbidity following buccal and labial mucosal graft harvest, morbidity at the donor and recipient sites has not been previously compared. In this prospective study, comparative analysis of VAS pain scores between oral donor site and perineum has shown that patients experience significantly more pain from the latter postoperatively.

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Table 1 Visual analogue pain scores

Patient	Day 1		Day 2	
	Mouth	Perineum	Mouth	Perineum
1	1	5.9	0.2	5.0
2	1.6	2.8	1.2	2.6
3	1.9	3.1	0.7	2.2
4	1.7	2.9	1.0	2.0
5	1.9	0.9	1.5	0.9
6	1.6	3.2	1.0	2.0
7	1.1	0.9	0.7	0.7
8	0.3	0.1	0.3	1.2
9	0.9	5.4	4.6	4.8
10	2.8	1.4	1.4	1.1
11	0.9	3.2	1.4	2.2
12	5.6	1.9	1.9	3.1
13	0.3	1.4	0.2	0.2
14	6.3	8.6	4.8	8.6
15	1.8	2.4	0.6	0.8
16	2.3	7.9	0.7	4.4
17	1.9	1.4	1.4	1.4
18	1.8	0.3	0	0
19	2.1	2.7	0.9	1.3
20	0.7	6.0	1.0	5.0
21	0.2	0.1	0.1	0.2
22	1.3	3.4	1.4	3.1
23	0	1.8	0.3	2.3
24	0	1.8	0.3	2.3

Wilcoxon signed ranks test: $Z = 4.2$;
two-tailed $P < 0.001$.