



ELSEVIER

Contents lists available at ScienceDirect

JPRAS Open

journal homepage: <http://www.journals.elsevier.com/jpras-open>

## Case report

## Vicryl rapide inclusion cysts and suture sinus tracts following hypospadias repair

H.S. Hrsikesa Sharma<sup>\*</sup>, L.K. Loshan Kangesu

St. Andrew's Centre for Plastic Surgery and Burns, Court Road, Chelmsford, Essex, UK

## ARTICLE INFO

*Article history:*

Received 30 October 2014

Accepted 8 November 2014

Available online 10 December 2014

*Keywords:*

Inclusion cysts

Sinus tract

Hypospadias

Vicryl rapide

## SUMMARY

We report three patients with vicryl rapide inclusion cysts and suture sinus tracts as late presentations and complications of primary hypospadias repair. All three patients underwent correction surgery to remove the cysts and lay open the suture sinus tracts with wounds closed with tissue glue with no further complications reported up to time of publication.

*Level of evidence: V.*

© 2014 British Association of Plastic, Reconstructive and Aesthetic Surgeons. Published by Elsevier Ltd. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/3.0/>).

## Introduction

Hypospadias repair is undertaken by Plastic, Urology and Paediatric surgeons and Polyglactin 910 (Vicryl Rapide; Ethicon, Inc.) is commonly used for skin closure. We present three cases of inclusion cysts and suture sinus tracts formation post single staged tubularised incised plate (TIP) repair<sup>1</sup> for hypospadias. Although this is recognised complication with other materials,<sup>2</sup> it is not known to occur with vicryl rapide.

## Case report

All patients were healthy with no dysmorphic features. They had coronal hypospadias with significant chordae and dorsal hooding. Their primary repair was carried out by the same surgeon using a single staged TIP repair with and glansplasty closed with 6.0 Polydioxanone (PDS; Ethicon) sutures and 6.0 vicryl rapide sutures for skin closure.

<sup>\*</sup> Corresponding author.

*E-mail address:* [drrishisharma@yahoo.co.uk](mailto:drrishisharma@yahoo.co.uk) (H.S. Hrsikesa Sharma).

Case 1 had noted to develop a fistula 18 months post primary hypospadias surgery and this was closed.

On annual follow up the following year he presented with 'blackheads' (Figure 1) on the ventral surface that had been present for about a year. These 'black heads' represented suture cysts with underlying sinus tracts along the pathway of the vicryl rapide sutures from the original surgery and not from the revision procedure. These were explored and the tracts were de-roofed with wounds closed using glue (Histoacryl; Tissuseal<sup>®</sup>). Follow up at one year was satisfactory.

Case 2 presented three years post-operatively with a suture sinus tract and also noted was an inclusion dermoid cyst on the ventral surface of the repair. This was removed and was closed using a 6.0 vicryl rapide as a subcuticular suture. Eleven months post-operative follow up has been unremarkable.

Case 3 presented one-year post hypospadias repair had removal of an inclusion cyst and a fistula that was closed. A further two years later he had developed multiple inclusion cysts and suture sinus tracts (Figure 2) post hypospadias repair that were excised and closed with histoacryl glue. Six months post-operatively they have been no reported problems.

## Discussion

These three patients had hypospadias repairs for coronal hypospadias using the same technique by the same surgeon. All patients had vicryl rapide used for skin closure and subsequently had revision surgery for excision of inclusion cysts and associated suture sinus tracts and the reasons for this remain unclear.

There continues to be a debate about the ideal suture material in hypospadias surgery. Skin closure is often with vicryl rapide which is a synthetic absorbable sterile surgical suture composed of a copolymer made from 90% glycolide and 10% L-lactide. Cysts and tracts have been associated more with absorbable sutures than non-absorbable due to the increased irritation and inflammatory effects. However, this has not been clearly reported with vicryl rapide, particularly in the case of hypospadias repairs. So choice of material could be the culprit for the findings in these patients and furthermore



Figure 1. Blackheads.



Patient	1	2	3
Date of 1st hypospadias repair	09/2007	02/2010	09/2008
Date of suture sinus tract detection and repair	11/2012	03/2013	03/2011 08/2013
Post op presentation	5 yrs 2 months	3 yrs 1 month	2 yrs 6 months and then 2 yrs 5 months

**Figure 2.** Suture sinus tract being laid open.

urine has been shown to have a differential effect on absorbable sutures used for hypospadias. Bacteria have also been shown to have differential adherence to suture materials.<sup>3</sup>

Other possibilities could be the knot used for skin closure. Subcuticular sutures have shown to have fewer problems than interrupted sutures in wound closure.<sup>4</sup>

In an audit of 147 patients in our unit the fistula rate was shown to fall to 6%. However, these three cases may be the start of a new trend. Subsequently we have changed our practice to using subcuticular sutures and dressing with glue.

These findings also highlight the importance of centralized long term follow up as these three patients have presented with the suture sinus tracts and inclusion cysts up to five or so years after their primary surgery and thus advocates the requirement for good long term follow up.

### Funding

None.

### Conflicts of interest

None declared.

### Ethical approval

Not required.

## References

1. Snodgrass W, Koyle M, Manzoni G, Hurwitz R, Caldamone A, Ehrlich R. Tubularized incised plate hypospadias repair: results of a multicenter experience. *J Urol*. 1996 Aug;156(2 Pt 2):839–841.
2. Cawley AJ, Archibald J. Sinus tracts resulting from suture material. *Can J Comp Med Vet Sci*. 1958 Feb;22:59–62.
3. Masini BD1, Stinner DJ, Waterman SM, Wenke JC. Bacterial adherence to suture materials. *J Surg Educ*. 2011 Mar–Apr;68:101–104. <http://dx.doi.org/10.1016/j.jsurg.2010.09.015> [Epub 2010 Nov 20].
4. Gurusamy KS, Toon CD, Allen VB, Davidson BR. Continuous versus interrupted skin sutures for non-obstetric surgery. *Cochrane Database Syst Rev*. 2014 Feb 14;2:CD010365. <http://dx.doi.org/10.1002/14651858.CD010365.pub2>. PMID: 24526375 [PubMed – in process].