

AN ENZYME ALGINOGEL* IN THE MANAGEMENT OF A 14-YEAR-OLD GIRL FOLLOWING SURGERY FOR AN OVARIAN TERATOMA

Sharon Donnelly

Practice Development, Paediatric Burns & Plastic Surgery Ward 11
Royal Victoria Infirmary (RVI), Newcastle upon Tyne, NE1 4LP

Introduction

Teratomas, whether mature or immature are the most commonly found ovarian neoplasm in children,¹ accounting for half of all ovarian neoplasms in children.² Teratomas are usually diagnosed in girls and young women up to their early twenties, with the cancer cells at a very early stage of development.

This case study reports on the management of a 14 year old girl (Zeida) from Botswana who was initially diagnosed with an ovarian tumour, for which she underwent a right salpingo-oophorectomy with the histology showing an immature teratoma. Three months later she required an abdominal hernia repair which uncovered a further tumour; this was partially debulked, but still left her with a significant intra-abdominal tumour. Two months later Zeida relocated to the UK to join her father and was admitted to hospital for percutaneous biopsy confirming a mature teratoma resulting in massive abdominal distension and respiratory compromise. There followed six months of oxygen therapy and ascitic drain insertion (therapeutic paracentesis), in an attempt to ease her abdominal distension. She finally had surgery to remove the tumour, but because of adherence of the tumour, she required a cholecystectomy and right sided hemicolectomy. Imaging two weeks post operatively identified peritoneal collections as well as some residual tumour between her diaphragm and spleen. Despite a further laparotomy to washout the abdomen and repair the abdominal wall Zeida's wound dehisced with purulent discharge. Tissue viability were asked to review the wound due to suboptimal healing some two weeks later.

Method

On examination Zeida's was necrotising and sloughy, swabs were taken, and the area cleansed with Polyhexamethylene Biguanide (PHMB) solution and redressed with honey covered with an adhesive secondary dressing. This regimen continued for four weeks, with dressings renewed every three days until the area was fully debrided. Whilst the initial plan was to apply Topical Negative Pressure (TNP) once fully debrided, it was decided to utilise an enzyme alginogel, instead of honey, to accelerate healing and possibly negate the need to subject Zeida to TNP. All other aspects of her dressing regimen remained, namely cleansing with PHMB solution, and redress three times a week with an adhesive secondary dressing over the enzyme alginogel.

References

1. Alotaibi M, Navarro O (2010) Imaging of ovarian teratomas in children: a 9 year review. Canadian Association of Radiologists Journal 61: 23-28
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3. Durante CM (2012) An open label non-comparative case series on the efficacy of an enzyme alginogel. J Wound Care 21 (1):22-28
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Results

Within two weeks, Zeida's wound had dramatically reduced in size, with no signs of infection and a clean wound bed capable of supporting a split skin graft without the requirement of TNP. Following the application of a small graft her wound went on to heal in a further three weeks.

Discussion

Teratomas are embryonal neoplasms consisting of tissues from at least two of the three germ layers (ectoderm, mesoderm or endoderm) and contain tissue that is foreign to the anatomic site. Teratoma means 'monstrous growth' reflecting the contents of some tumours which can be tangled masses of hair mixed with teeth, cartilage and bone.

An antimicrobial enzyme alginogel (containing glucose oxidase and lactoperoxidase), combines the benefits of hydrogels and alginates with an antimicrobial to help reduce bacterial load and debride necrotic tissue through hydration and autolysis.³ It has a proven broad-spectrum antibacterial activity⁴ thereby helping to control bioburden, whilst the gel helps to soothe and relieve pain conforming and contouring to all areas.

Conclusion

This little girl endured 18 months of horrendous problems with unimaginable emotional consequences. The final dressing regimen in her long journey to recovery was easy to use and comfortable whilst accelerating healing and controlling bioburden. To be able to negate a further procedure through judicious use of available dressings was a triumph for the team involved in Zeida's care.

*Enzyme alginogel - Flaminal®

Image 1



Image 2



Image 3



Image 4

