CASE REPORT

Fungal endophthalmitis: an unusual complication of GI surgery and endoluminal vacuum therapy

Megan Wood, David Wright, Paul Witherspoon

Department of General Surgery, Southern General Hospital, Glasgow, Lanarkshire, UK

Correspondence to

Dr Megan Wood,
megankaywood@gmail.com

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SUMMARY

We present a case of endogenous fungal endophthalmitis arising as a complication of fungal septicaemia following gastrointestinal surgery, and subsequent treatment with endoluminal vacuum therapy (Endo-SPONGE, B Braun Medical Ltd). Our patient developed a pre-sacral collection due to an anastomotic leak post ileoanal pouch formation. Despite treatment with Endo-sponges and antibiotics, the patient suffered recurrent sepsis and the cavity failed to reduce in size. He developed red eyes and blurred vision, leading to the diagnosis of fungal endophthalmitis. Extended fungal cultures of the Endo-sponges and pouch effluent revealed *Candida* spp. This case is the first report of fungal endophthalmitis associated with Endo-sponge use and highlights the importance of fungal cultures in patients with ongoing sepsis.

BACKGROUND

Endogenous fungal endophthalmitis is a rare intraocular infection resulting from the systemic haematogenous spread of the organism seeding to the eye. *Candida albicans* (a common commensal organism) is the most common cause of endogenous fungal endophthalmitis. Endoluminal vacuum therapy is increasingly being used to manage anastomotic leakage following colorectal surgery.¹ Endo-sponges (B Braun Medical Ltd) are a type of endoluminal vacuum therapy, where a sponge sits within the cavity and mild negative pressure allows continuous drainage. Use of Endo-sponges promotes healing by encouraging granulation and reducing the size of the cavity.

CASE PRESENTATION

An 18-year-old male patient underwent ileoanal pouch formation after pancolectomy for ulcerative colitis. Postoperatively, he had recurrent sepsis and CT scan with contrast instilled in the pouch revealed an anastomotic leak with presacral collection. At this time, he had not received immunosuppressant medication for 1 year. He was treated with multiple courses of intravenous antibiotics and an Endo-sponge device was inserted into the presacral cavity, and was changed every 3 days. Three months into treatment, the cavity had failed to reduce in size; the patient started to report bilateral red eyes and blurred vision, however, he experienced no pain. He was initially treated for bacterial conjunctivitis and anterior uveitis; however, his symptoms failed to improve with topical steroids. Subsequent ophthalmology review revealed reduced visual acuity in the right eye only (6/12,

corrected to 6/4 with pinhole). On examination, the patient was found to have bilateral anterior uveitis and mild vitritis. Peripheral whitish pre-retinal and intraretinal lesions (chorioretinitis with overlying vitreous inflammation) were identified on fundoscopy (figure 1). Although clinically there was no obvious vascular sheathing, fluorescein angiography revealed non-occlusive venulitis. These clinical findings were felt to be consistent with fungal endogenous endophthalmitis.

INVESTIGATIONS

C reactive protein was mildly elevated at 55 mg/L (0–10 mg/L). Although blood cultures showed no growth or organisms, *C. albicans* and *C. tropicalis* were subsequently cultured from the Endo-sponges and pouch effluent. Chest X-ray and echocardiogram revealed no abnormalities.

TREATMENT

The patient was treated with 4 weeks of oral voriconazole and the Endo-sponge use was discontinued.

OUTCOME AND FOLLOW-UP

After 4 weeks of treatment, the eye symptoms resolved and vision was restored to 6/4 in both eyes. At the time of writing, 12 months later, the patient has no further presentations with sepsis or eye symptoms. He is now being considered for revisional pouch surgery.

DISCUSSION

Eye complications are rare in colorectal surgery; however, prompt diagnosis, multidisciplinary review and coordinated treatment in this case avoided permanent blindness. This is the first

Figure 1 Retinal photograph demonstrating whitish pre-retinal and intraretinal lesions.

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reported case where the use of Endo-sponges has been associated with disseminated fungal infection resulting in haematogenous spread to the eyes. Surgeons should be aware of the possible complication of fungal infection with Endo-sponge use and, in cases of persistent or unexplained sepsis, should ensure the appropriate extended fungal cultures are requested.

Learning points

- ▶ Use of endoluminal vacuum therapy may be associated with an increased risk of fungal infection.
- ▶ Request extended fungal cultures in cases of recurrent sepsis or antibiotic treatment failure.
- ▶ The literature now favours the use of oral voriconazole in the treatment of fungal endophthalmitis.

Although current guidelines state intravenous amphotericin should be used in the treatment of fungal endophthalmitis,² the current literature favours voriconazole, due to its better vitreal penetration and better side effect profile.³

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REFERENCES

- 1 Strangio G, Zullo A, Ferrara EC, *et al.* Endo-sponge therapy for management of anastomotic leakages after colorectal surgery: a case series and review of literature. *Dig Liver Dis* 2015;47:465–9. (accessed 15 May 2015).
- 2 Pappas PG, Kauffman CA, Andes D, *et al.* Clinical practice guidelines for the management of candidiasis: 2009 update by the Infectious Diseases Society of America. *Clin Infect Dis* 2009;48:503–35.
- 3 Riddel J, Comer GM, Kauffman A. Treatment of endogenous fungal endophthalmitis: focus on new anti fungal agents. *Clin Infect Dis* 2011;52:648–53.

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