

Necrotic Periorbital Ulceration due to *Morganella morganii*

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Morganella morganii is a gram-negative rod commonly found in the environment. It is also seen as a part of the normal flora of the intestinal tracts of humans, mammals, and reptiles, and is often encountered in postoperative and other nosocomial settings, causing a variety of infections. Eye involvement is rare, with just 1 case of endogenous endophthalmitis occurring due to *Morganella* bacteraemia, reported in the past 10 years. This report is of a 50-year-old man with small-cell carcinoma of the lung, who presented with bilateral periorbital ulceration that grew *Morganella morganii* when cultured.

Introduction

A 50-year-old man presented to the Accident and Emergency Department at the Sultan Qaboos University Hospital in Oman with a history of pain and ulceration of 5 days duration involving both eyes. He had no useful vision in either eye since childhood. He had been receiving chemotherapy in the form of systemic cisplatin and etoposide for small cell

carcinoma of the lung for the previous 2 months.

Ophthalmic examination revealed bilateral necrotic ulceration of both the upper and the lower eyelids, with the ulcers extending to the adjacent inferior periorbital areas (Figure 1). Both eyes were phthisical. There was no preauricular lymphadenopathy on either side. His face looked puffy. Microbiological swabs taken from the ulcerated areas showed heavy growth of

Morganella morganii sensitive to gentamicin and co-trimoxazole.

Laboratory investigations revealed normal blood counts and erythrocyte sedimentation rates. Serum albumin was 21 gm/l (normal range, 35 to 50 gm/l) and total proteins were low at 22 gm/l (normal range, 60 to 80 gm/l). Blood culture was negative after 7 days. Urine microscopy showed a few red blood cells and less than 10 pus cells. Culture showed no growth of organisms. A moderate number of *Giardia lamblia* were noted on microscopic examination of stool. However, no intestinal pathogens were isolated from the stool culture. Cultures taken from the surface of other body sites showed normal skin flora. Sputum microscopy and culture were normal. X-ray of the orbits and the sinuses was normal.

The ulcers responded to treatment with co-trimoxazole 960 mg twice daily for 14 days and topical application of 0.3% gentamicin ointment, leaving a thin superficial scarring of the lids and the periorbital areas on both sides (Figure 2).

Discussion

M morganii is a gram-negative rod commonly found in the environment.¹⁻³ It is also part of the normal flora of the intestinal tracts of humans, mammals, and reptiles, and is often encountered in postoperative and other nosocomial settings causing urinary tract infections, sepsis, pneumonia,

Figure 1. Necrotic ulcerations involving the lids and periorbital area.



Figure 2. After treatment with co-trimoxazole.



wound infections, musculoskeletal infections, central nervous system infections, pericarditis, chorioamnionitis, empyema, and spontaneous bacterial peritonitis.^{3,4} Eye involvement is rare, with only 1 case of endogenous endophthalmitis occurring due to *Morganella* bacteraemia reported in the past 10 years.⁵

The genus *Morganella* belongs to the family Enterobacteriaceae. At present, *Morganella* contains only a single species, *M. morganii*. *M. morganii* was previously classified under the genus *Proteus* as *Proteus morganii*.¹⁻³

Risk factors for development of *M. morganii* infection include surgical or non-surgical trauma, prior exposure to β -lactam antibiotics, diabetes mellitus, malnutrition, debilitation, alcoholism, and certain snake bites.^{3,4} The anatomical structure, vascularity, and the proximity of the lids and the periorbita to structures such as the nasolacrimal system, nose, and the paranasal sinuses make these areas vulnerable to both the development and rapid spread of infections.⁴⁻⁶

For this patient, limitations to his ability to care for himself due to blindness, lack of support of the lids due to phthisis bulbi, puffiness of the face secondary to

hypoproteinaemia, and altered body resistance due to underlying malignancy and chemotherapy contributed to the development of the infectious lesions. However, prompt and adequate treatment resulted in rapid healing, with little or no deformities.

Ulceration and necrosis of the lids and the periorbital region due to infectious and non-infectious causes have been reported before.^{5,6} The most common infecting organisms are β -haemolytic *Streptococci*, *Staphylococci*, and *Enterobacteriae*.^{7,8,9} However, no organism is exempt.¹⁰ Early diagnosis and identification of the organisms, adequate and prompt treatment and, occasionally, debridement of tissues, can prevent structural loss as well as control the spread of infection.⁶⁻¹⁰

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