Dexamethasone

S

Various toxicities and off-label use: case report

A 75-year-old woman developed *Enterococcus faecalis* infection, rhinocerebral mucormycosis, multiple drug resistant *Escherichia coli* infection, and *Prevotella* infection during treatment with off-label dexamethasone for COVID-19 pneumonia [*route, dosage, duration of treatment to reaction nest and outcome not stated*]. She additionally received an off-label convalescent plasma for COVID-19 pneumonia.

The woman, who had medical history of poorly controlled type II diabetes mellitus (DM), coronary artery disease, myocardial infarction and atrial fibrillation. On 28 January 2021, she presented at community hospital in USA and diagnosed with COVID-19 pneumonia. She started receiving off-label dexamethasone 6mg daily and 1 unit of convalescent anti SARS-CoV-2 plasma [convalescent plasma]. She was discharged with recovering COVID-19 pneumonia. She was hospitlised after 5 days due to worsening left sided facial swelling, fever and decreased visual acuity of left eye, in addition to worsened conjunctivitis. She was transferred to another hospital with left facial abscess, atrial fibrillation with COVID-19 pneumonia (resolving), poorly controlled DM and atrial fibrillation with rapid ventricular response. A maxillofacial CT revealed severe soft tissue emphysema throughout the left cheek extending from left maxilla superiorly to left orbit, anteriorly to base of the nose and posteriorly to left masseter muscle. She also had eye proptosis causing compression on the left orbit and left maxillary osteomyelitis with multiple foci of intraosseous gas. She underwent left maxillary vestibular incision and necrotic appearing maxillary and zygomatic bone were encountered. Samples from these area were sent for pathology.

The woman was therefore treated with empirical ceftriaxone, vancomycin and metronidazole. Cultures grew *Enterococcus faecalis*, multiple drug resistant *Escherichia coli*, and *Prevotella*. Thus, Enterococcus faecalis infection, multiple drug resistant Escherichia coli infection and Prevotella infection associated with off-label dexamethasone was considered. She was discharged with piperacillin/tazobactam. After 2 days, she underwent debridement of necrotic tissue followed by drainage of new abscesses of the left inferior temporal space and masseteric space. She underwent washout and debridement. Additionally, fungal cultures were collected. Bone pathology revealed extensive necrosis of the left maxilla and zygoma with infiltrates by fungi and bacteria specifically broad non-septate hyphae with variable branching patterns concerning for Mucor. She started receiving empirical amphotericin B. Her leukocytosis and fever resolved. Repeat maxillofacial CT revealed resolving cellulitis. Fungal cultures were positive for Mucor. In the following week she underwent multiple washout and debridement procedures. Her wound was packed with iodoform gauze. Thereafter, she started isavuconazonium and liposomal amphotericin B due to observed evolving necrosis. During washout and debridement, fungal invasion into the ethmoid and sphenoid sinuses were observed. Her mental status deteriorated with inability to follow commands, in addition to complete left sided ophthalmoplegia. Head MRI did not reveal intracranial spread of the infection. Thereafter, her orbit was removed surgically. A foam surgical scrub brush was saturated with nystatin and mupirocin wrapped in xeroform gauze and secured with silk sutures in the surgical site with

eye patch over top. She continued to received washout and debridement, in addition to antifungal therapy. free chimeric anterolateral thigh myocutaneous flap was planned due to extent of wound.

During final reconstruction, fascio-cutaneous component of the flap was used to cover external skin defect. She continued receiving isavuconazonium. Eventually, she was transferred to skilled nursing facility with recovery after 2 months without complications.

Deek AJ, et al. Rhinocerebral Mucormycosis as a Sequelae of COVID-19 Treatment: A Case Report & Literature Review. Journal of Oral and Maxillofacial Surgery 80: 333-340, No. 2, Feb 2022. Available from: URL: http://doi.org/10.1016/j.joms.2021.09.009