Invasive oral and nasal aspergillosis in an immunocompetent child

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A previously healthy 5-year-old boy with a toothache persisting for 10 days visited the emergency department of the Hospital de Urgências Governador Otavio Lage de Siqueira (Goias, Brazil); he also complained of swelling in the soft palate with active bleeding and clot formation. CNS and face tomography were done, which revealed the presence of a vegetative lesion measuring roughly 2×3 cm composed of soft tissue in the palatal mucosa region (figure). The lesion was invading the left nasal cavity, and we suspected a tumour.

The patient had an incisional lesion biopsy, which revealed a histopathological finding compatible with fungal ball. This situation was suggestive of *Aspergillus* spp infection, which was identified via microscopic examination of a 10% potassium hydroxide preparation and Gomori methenamine-silver nitrate stain. No malignancy was found. Treatment with intravenous antifungal amphotericin lipid complex was initiated (4·5 mg/kg per day for 30 days) followed by oral voriconazole (100 mg twice daily for 2 weeks). Immunodeficiency screening was done and the results were within normal limits: HIV serology was negative; immunoglobulins—IgA 357 mg/dL, IgM 238 mg/dL, IgG 1097 mg/dL, and IgE 330 mg/dL; complement components—C3 132 mg/dL, C4 23 mg/dL, and CH50 138 mg/dL; lymphocyte subset—CD4 2818 cells per µL (31% of total lymphocytes), CD8 3239 cells per µL (36% of total lymphocytes), and CD4 to CD8 ratio 0·87; dihydrorhodamine test—patient 713 dihydrorhodamine fluorescence arbitrary units [AU], healthy control 634 AU, with the normal level being 30 AU or greater. The lesion was completely resolved after antifungal therapy.

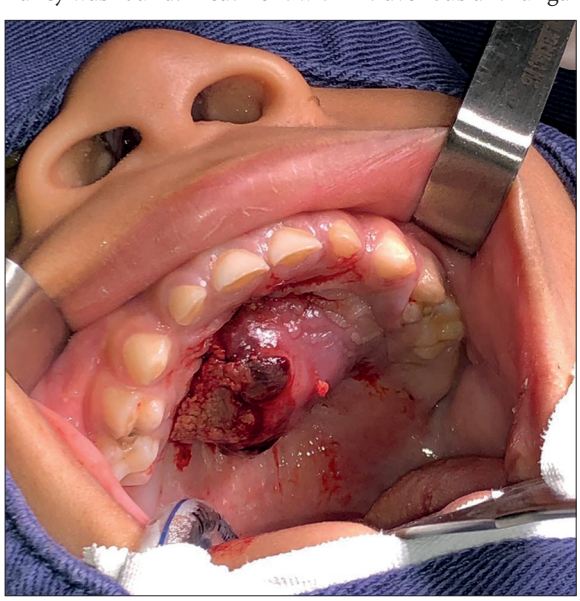

Figure: **Intraoral photo showing the palatal lesion with a necrotic, ulcerated base**

Invasive aspergillosis is a clinical entity that can occur in paediatric patients, especially those with primary or secondary immunodeficiencies. It is described as a serious infectious disease that can affect groups of children who have had transplants after chemotherapy or immunomodulatory treatments or individuals with neoplasms or primary immunodeficiencies. The mortality rate of invasive aspergillosis can be up to 50% but is directly associated with the degree of immune deficiency and the clinical condition of the patient. Imaging exams, particularly high-resolution, thin-section CT and pathological confirmation with fungal identification, are necessary for diagnosis. The treatment schedule is individualised for each type of presentation of invasive aspergillosis, with a minimum of 6–12 weeks of intravenous voriconazole or liposomal amphotericin B.

Contributors

APVdS, SSCP, and TCSG cared for the patient. APVdS and SSCP did the literature search. SSCP, PSC, PMF, and LDC wrote the report. All authors approved the final version of the case report.

Declaration of interests

We declare no competing interests