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Case Report

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Oral Manifestations of Burkitts Lymphoma; Literature Review and Case Report

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Abstract

Burkitt's lymphoma (BL) is a non-Hodgkin Lymphoma (NHL) type fast growing neoplasm of the B-cells and is one of the most common subtypes of paediatric lymphomas. A case of 5 years old female presenting with pain and abnormal teeth mobility in the mandible and swelling of right eye. The initial presentation coincided with multiple organ involvement and urgent referral to Oncology was made. Chemotherapy was initiated and patient was in remission within two months, remains in remission 22 months later. This case reports stresses on dentists and GP recognising signs of abnormal presentations and referring to relevant specialities to ensure early detection and management.

Keywords: Prematurely Mobile Teeth, Burkitt's Lymphoma, Paediatric Patients

1. Introduction

Burkitt's lymphoma (BL) is a non-Hodgkin Lymphoma (NHL) type fast growing neoplasm of the B-cells and is one of the most common subtypes of paediatric lymphomas [1,2,3]. Despite its rarity, BL accounts for about 2% of all non-Hodgkin lymphomas, with varying occurrence depending on the subtype [3]. Burkitt's lymphoma was first described in 1958, by Dr. Denis Burkitt, who while working in Uganda, noted a high incidence of African children presenting with rapidly growing mandibular tumours [4,5]. Mature B-cell non-Hodgkin lymphomas (B-NHLs) constitute approximately 60% of all paediatric NHL diagnoses and 7% of all paediatric cancers [6]. Paediatric orofacial tumours studies reveal BL to be the most common malignant lesion, while Ameloblastoma the commonest benign tumour [7]. Although rare, Burkitt's lymphoma affects children more frequently, accounting for 30-50% of paediatric lymphomas and is more prevalent in males than females [8]. This review delves into the literature on the oral manifestations of Burkitt's lymphoma, focusing on various clinical presentations, diagnostic challenges, and management strategies.

Burkitt's lymphoma exhibits specific chromosomal translocations, most commonly involving the MYC gene [9,10]. A translocation between MYC gene and an immunoglobulin promoter leads to the constitutive expression of MYC and is found in all cases [11]. BL may present as bony or visceral organ involvement including maxillofacial bones, mediastinum, pelvis, abdomen, kidneys, spleen, ovaries [2,9,12]. Bone marrow involvement is quite rare and approximately 20% of patients with BL exhibit sporadic bone marrow involvement. Advanced mature B-cell NHL (≥25% bone marrow blasts cells and/or central nervous system involvement) is categorised as highly aggressive. BL with bone marrow involvement is classified as stage IV mature B-cell NHL, while BL with 5%-25% blasts in the bone marrow is classified as Burkitt's lymphoma with bone marrow involvement [2,5].

Although primarily a haematological disorder, BL may present as oral manifestations, having significant debilitating impact on quality of life [13]. This rapidly growing malignant tumour with high proliferative potential manifests in three primary subtypes: endemic, sporadic, and immunodeficiency associated [14,15]. Endemic BL primarily occurs in equatorial Africa and is closely linked to Epstein-Barr virus infection (EBV) [16]. The Epstein - Barr virus (EBV) plays a notable role in the pathogenesis of Burkitt's Lymphoma, particularly in the endemic form. While the precise mechanism by which EBV contributes to Burkitt's Lymphoma is complex, it is thought to involve the virus's ability to inhibit programmed cell death, thereby fostering the survival and proliferation of infected cells [17]. EBV infection often coincides with a higher incidence of Burkitt's Lymphoma, highlighting

the virus's influence in specific geographical and environmental settings. Sporadic BL is more commonly found in the western world and typically involved visceral organs such as abdomen, spleen, kidneys, pelvis etc. and may present as an abdominal mass, although involvement of the jaw and facial soft tissues may also be found [17,18]. Immunodeficiency-associated BL primarily affects individuals with immunocompromised conditions, such as HIV/AIDS, and has a propensity of involving extra-nodal sites [18].

2. Lietarure Review

Oral manifestations of Burkitt's Lymphoma can frequently mimic commonly occurring dental conditions, leading to misdiagnosis, and delaying appropriate treatment [5,9,13]. These include gingival or soft tissue swelling, pain, tooth mobility and displacement, and paraesthesia. Facial asymmetry arising from intra-oral or extra-oral swelling may prompt patients to seek dental evaluation [5,8]. The swelling may involve the facial bones, soft tissues such as tongue, oro-pharynx, and gingivae and can progress rapidly [9,13]. This can be mistaken for other odontogenic lesions or infections [9]. Localized pain is frequently reported and might be due to the tumour infiltration and invasion into dental pulp or alveolar bone, which impacts developing teeth. As the lymphoma progresses, affected teeth may exhibit increasing abnormal tooth mobility secondary to underlying bone and periodontal destruction [5,9,19]. Ulcerative lesions may be present, particularly in advanced stages. These lesions are often painful and may resemble aphthous ulcers or other infectious lesions. Other presentations include changes in the oral mucosa such as localised or diffused erythema, pallor, or the appearance of petechial (which may reflect systemic involvement) [5,10]. Cervical lymphadenopathy is a common finding in BL due to its malignant and invasive nature and may extend into the oral cavity and nasopharynx, causing further swelling and discomfort. Altered sensation or paraesthesia, particularly in areas innervated by the inferior alveolar and mental nerves, is a particularly alarming symptom. While paraesthesia can be a rare presentation, its presence suggests possible nerve involvement by the lymphoma, signalling an advanced stage of disease. When paraesthesia occurs without an apparent cause, especially in a young, fit, and healthy patient, it necessitates further investigation to rule out possible malignancy, including Burkitt's Lymphoma. Early identification and referral for appropriate oncological assessment can significantly impact prognosis and treatment outcomes.

Radiographic examination is a pivotal tool in differentiating Burkitt's Lymphoma from other conditions [20]. Typical radiographic features associated with BL include areas of diffuse radiolucency indicating generalised bone resorption or loss, trabecular bone loss, leaving teeth appearing to be ‘floating’ [21,22]. Jaw involvement with Burkitt’s lymphoma is more commonly seen with the endemic form though a case describing “floating teeth”. Historically, “floating teeth” in paediatric patients have been thought to be almost pathognomonic of Langerhans cell histiocytosis, though this finding may also reflect any destructive process in the mandible, including infectious, hematologic, metabolic, or neoplastic aetiology [5]. Loss of Lamina Dura can mimic periodontal diseases, making imaging an important diagnostic tool. Widening of Periodontal Ligament Space is another diagnostic clue, as it might indicate invasive or malignant processes rather than a localised benign inflammation. Roots of teeth may appear shorter and resorbed and teeth may appear displaced due to lack of bony support. Radiographically, BL causes generalized destruction of crypts of teeth with loss of lamina dura and trabecular pattern in the jaws and may present as tumour of the jaws or facial bones with metastatic potential [5,21,22]. A detailed radiographic evaluation, alongside a thorough clinical examination, can help distinguish Burkitt's Lymphoma from other dental pathologies [23].

Visceral Involvement include Lymphadenopathy with enlarged cervical or peripheral lymph nodes presenting as painless, rapidly enlarged lymph nodes. Abdominal Symptoms may include constipation, vomiting, nausea, diarrhoea, paroxysmal abdominal pain, or distension due to mesenteric or retroperitoneal involvement [24]. B Symptoms include fever, night sweats, and weight loss may occur but are less common than in other lymphomas [25]. Other commonly involved regions include the cervical or peripheral lymph nodes, neck, mediastinum, and kidneys [2,12]. BL may affect head and neck bones, central nervous system, bowel, ovaries [26,27].

Clinicians often initially suspect common dental ailments when patients present with oral symptoms such as swelling, pain, trismus, leading to potential misdiagnosis [28]. Diagnosing Burkitt's lymphoma based solely on oral manifestations poses several challenges as symptoms can overlap with other conditions, including infections, other malignant or benign odontogenic or non-odontogenic tumours [13]. Consideration of Burkitt's Lymphoma is essential when assessing acute or persistent, chronic oral lesions, dental pain unresponsive to conventional treatment or increasing abnormal tooth mobility, especially in young and seemingly fit and healthy patients [20,25].

Diagnosis of BL is a multidisciplinary aspect involving multiple teams. Clinical assessment involving thorough history taking and physical examination is imperative focusing on lymphadenopathy and organomegaly. The diagnostic gold standards following thorough physical examination are ultrasounds and CT scans, which serves to narrow down the differential diagnosis [26]. Diagnostic investigations that can be performed include chest X-ray, bone marrow aspiration, CT scan, analysis of cerebrospinal fluid, and lymph node biopsy. Imaging techniques such as ultrasound (particularly for visceral involvement such as spleen, abdomen, and CNS), CT scans or MRI are helpful in assessing the extent of disease. Tissue Biopsy for histological confirmation confirms the type and stage of disease [26,27]. Characteristic histology shows a high proliferation index with starry sky appearance due to macrophage infiltration [28,29]. A bone marrow biopsy may show dense blasts infiltration in the bone marrow consistent with acute leukaemia [30]. Immunophenotyping is another tool which confirms typically positive for CD19, CD20, and CD10, with negative staining for BCL2. Cytogenetics detect MYC translocation with t(8;14) gene being the most common [18,26,30,31]. The neoplasm

exhibits aggressive behaviour and moderate prognosis [13], with early detection and treatment resulting in higher survival rate [21]. Central Nervous System (CNS) and Cerebrospinal Fluid (CSF) involvement and abnormal blood tests including more than twice the upper limit of Lactate dehydrogenase (LDH) levels in blood denotes poorer prognosis [26,29,30].

The management of Burkitt's lymphoma involves a multidisciplinary approach. Chemotherapy is the first choice in the treatment of BL using doxorubicin, methotrexate, vincristine, cytarabine, prednisone, and cyclophosphamide [27]. Radiotherapy modalities are not widely used as a treatment option for BL. Chemotherapy can be used as a single therapy or a combination of various forms of therapy. Anticancer drugs generally affect cell division which occurs rapidly [6,30]. Intensive chemotherapy regimens, often including cyclophosphamide, doxorubicin, vincristine, and prednisone (CHOP) or similar regimens, are standard [25,26,27]. Intensive multi-agent chemotherapy regimens (systemic or intrathecal) are often used due to the aggressive nature of the disease [17], designed to target the rapidly proliferating cells typical of Burkitt's Lymphoma. A multi agent regime of the use of etoposide, prednisone, vincristine, cyclophosphamide, doxorubicin, and rituximab (EPOCH-R) [5,27], a regimen of infused drugs based on in vitro studies showing enhanced tumour-cell killing with prolonged low-concentration drug exposure, as compared with brief, high-concentration exposure [11]. The therapeutic application of the combination of Galiximab and cytotoxic drugs in the treatment of drug resistant B-cell malignancies causes cell lysis through antibody-dependent cell-mediated cytotoxicity, complement-dependent cytotoxicity, and apoptosis (cell death). Rituximab has demonstrated efficacy in Burkitt's disease and is widely used for BL treatment in both paediatric and adult patients [11,28,29,31]. Monoclonal antibodies and new immunotherapy approaches represent exciting advances for the treatment of this haematological disease. Revolutionary therapies are now possible, and clinical trials could hopefully determine how to best incorporate these new technologies into existing targeted treatment protocols [29,30].

Side effects associated with Chemotherapy treatment include B symptoms (fever, unintentional weight loss, night sweats), along with nausea, vomiting, prolonged bleeding or bruising, generalised fatigue, tiredness, aches, lethargy, flu-like symptoms, headaches, brittle nails, and hair loss [32]. Ocular involvement may cause conjunctivitis, blurred vision, or photosensitivity. Supportive care, including pain management, oral hygiene maintenance, is vital, particularly in patients experiencing mucositis, oral ulcerations, xerostomia, or mucositis as a side effect of chemotherapy [33]. Chemotherapy may result in altered kidney and liver function tests along with raised blood uric acid levels. Cardiorespiratory issues may also be faced as a side effect with symptoms of breathlessness, and pneumonia due to immunosuppression [32]. Effective chemotherapy leads to over 80% event free survival for limited-stage disease. Radiotherapy and immunotherapy have been attempted with varying success [30].

Regular follow-up is crucial to monitor for disease recurrence or secondary complications, especially involving the oral cavity. Burkitt lymphoma is often very responsive to the currently recommended intensive chemotherapy regimens, and cure rates for this disease remain high [13,22,23]. Studies show people who receive prompt medical treatment have higher rates of remission [6,26]. Omoregie et. Al., describe the prevalence and differential diagnosis of benign and malignant tumours of the jaw with characteristic radiographic presentations that may mimic BL. These include Ameloblastoma, Odontogenic fibromyoma, Peripheral odontogenic fibroma, Fibrous dysplasia, Granular cell tumour, Central giant cell granuloma, Squamous cell carcinoma, Chondrosarcoma, Malignant fibrous histiocytoma, Langerhans Cell Histiocytosis [5,7, 34-40].

3. Case Presentation

A 5 year old female was referred to the Paediatric Dental Unit at Chelsea and Westminster Hospital NHS Trust, for assessment of pain from newly erupted permanent lower central incisors and mobility of all deciduous mandibular teeth, in November 2022. Patient was an irregular attendee, and this was her first dental visit since age 1 year old. There was a history of severe hydronephrosis, and General Anaesthetic was undertaken for pyeloplasty at age 6 months old. Patient was otherwise medically fit and healthy currently.

Parents gave a history of pain from the lower incisors and second episode of swelling in the eye. They reported weight loss of 4 kilogram in 2 weeks. Parents stated that patient was taken to the General Practitioner (GP) 2 weeks prior to presentation in our department, for eye swelling and antibiotic eye drops were prescribed. This was a second episode of swollen eye and previously a similar presentation occurred with swelling and purulent exudate from the right eye, approximately 2 months ago. Patient was also seen at the Community Dental Services, who prescribed antibiotics (Metronidazole) due to possible periodontal involvement.

Physical examination revealed skin pallor without evidence of dry scaly patches, redness, no exophytic nodules and no brittleness of hair or nails. Patient had a high temperature on the day of presentation without evidence of hyperhidrosis. Extra-orally, there was a painless right eye swelling with proptosis, periorbital swelling, and oedema. Intraoral examination revealed mobile upper E's and all lower deciduous teeth, with extensively swollen, erythematous gingivae in the lower anterior region, as shown in Figure 1. Lower permanent incisors were partially erupted, displaced and grade 3 mobile.

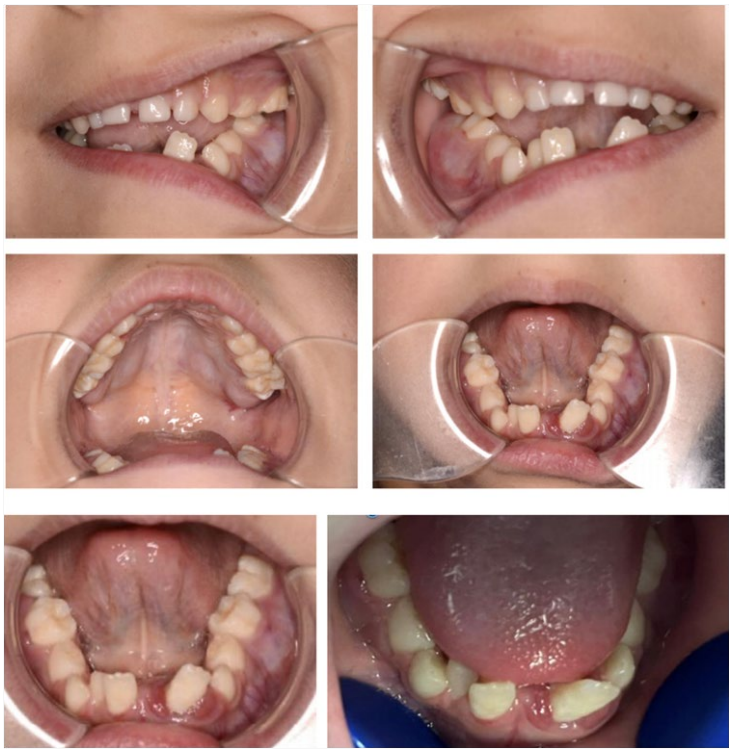

Figure 1: Displacement of lower permanent central incisors with gingival erythema, lingually tilted lower first permanent molars.

A lower standard occlusal radiograph and Dentopantomogram (DPT) revealed generalised severe bone loss, lack of trabecular bone pattern and appearance of displaced 'floating teeth' in the mandible, as shown in Figure 2.

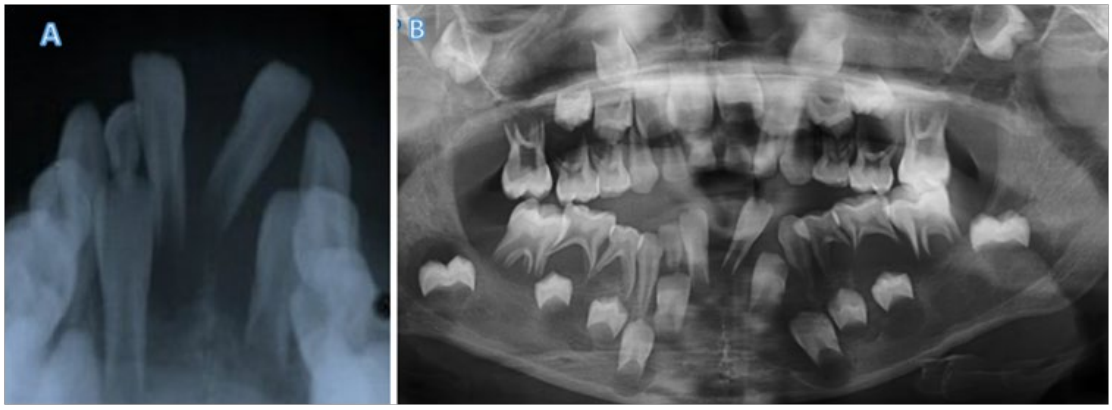

Figure 2: (A) Lower Standard Occlusal Radiograph and (B) Dentopantomogram (DPT) taken in November 2022, Showing Generalised Bone Loss in the Mandible

Multidisciplinary team (Paediatrician, Paediatric dentist, and Oncologist) was organised urgently to undertake thorough investigations. A detailed discussion was undertaken with Dental clinicians, oncologists and parents and any definitive dental treatment was deferred until further investigations were undertaken, as agreed by all teams, until a formal diagnosis as reached. Parents were given safety net advises regarding airway risks associated with grade 3 mobile lower permanent incisor teeth. However, extractions of mobile teeth at this stage were not deemed a priority at this stage.

CT scan of head and neck with contrast revealed solid homogenous right orbital, bilateral maxillary, and mandibular lesions with bone involvement. Ultrasound Abdomen and Pelvis showed a large pelvic soft tissue mass and splenomegaly. Blood tests revealed high monocyte counts, blood ferritin levels and lactate dehydrogenase levels, as shown in Table 1 below.

Red blood cell count	Low	3.94 x10^12/L
Platelet count	Low	194 x10^9/L
Monocyte counts	High	2.0 x10^9/L
Ferritin levels	High	501 ug/L
Alkaline Phophatase levels	Low	143 unit/L
Lactate dehydrogenase levels	High	1,509 unit/L

Table 1: Shows Results of Blood Tests (Only Abnormal Blood Tests are Mentioned Here) Which Revealed:

Further investigations undertaken included pelvic mass biopsy and Bone marrow aspiration (CSF and CNS - negative) and trephine Biopsy (revealed infiltration by Burkitts' Lymphoma). Tumour markers from Pelvic mass biopsy (revealed Blast cells representing 99% of White Blood cell [WBC] events) and condensed Bone Marrow (BM) immunophenotyping (Blast cells 62% of total BM WBC events), thereby, confirming Kappa restricted Burkitt's Lymphoma diagnosis. A confirmed diagnosis of Paediatric Solid non-CNS - non-Hodgkins Lymphoma, stage 4, MYC (8q24) was made.

All investigation were complete by then and the Oncology team recommended Chemotherapy treatment to be initiated urgently. Informed consent was obtained from parents in view of short- and long-term chemotherapy side effects and complications (Lethargy, numbness of extremities, nausea, vomiting, hair loss, anaemia, risk to infections due to immunosuppression, infertility relapse and refractory disease). Chemotherapy was initiated (R-COPADM-1) consisting of high dose methotrexate as per CCLG NHL Burkitt's protocol [26]. Multiagent chemotherapy included Dexamethasone, Methotrexate, Rituximab Doxorubicin, Etoposide, Vincristine, Cyclophosphamide, Cytarabine. A 7-day Bone Marrow (BM) biopsy post intrathecal chemotherapy treatment confirmed morphological remission. 6 cycles of chemotherapy were repeated, and patient was in complete remission by January 2023.

During the course of Chemotherapy treatment, patient experienced grade II mucositis (32) from the second to sixth week of Chemotherapy. Management included analgesia (Acetaminophen, Non-Steroidal Anti-inflammatory Drugs), mouth rinses (chlorhexidine gluconate mouthwash 0.12%, saline/ Sodium Bicarbonate rinses, Benzydamine hydrochloride mouthwash 1 spray every 1.5–3 hours), mucosal surface protectants prescription of hydroxypropyl cellulose gel, oral sucralfate suspension. Although due to the severity of general side effects (Nausea, vomiting, fatigue) associated with Chemotherapy, patient was encouraged to maintain a good oral hygiene consisting of brushing 2-3 times daily with a soft toothbrush, using flavourless fluoridated toothpaste. As mentioned above, general side effects of Chemotherapy included Nausea, vomiting, fatigue and tiredness, body aches and hair loss. In March 2023, patient experienced occlusion and collapse of right lower lobe bronchus secondary to pneumonia for which she required inpatient admission and antibiotics treatment, making a complete recovery.

Patient was seen at the Community dental services for 3 monthly recall and 1 year review in our dental unit revealed patient is in mixed dentition with excellent oral hygiene, caries free dentition, no abnormal mobility of teeth. The previously displaced and mobile lower permanent central incisors were firm and in good position, as shown in Figure 3.

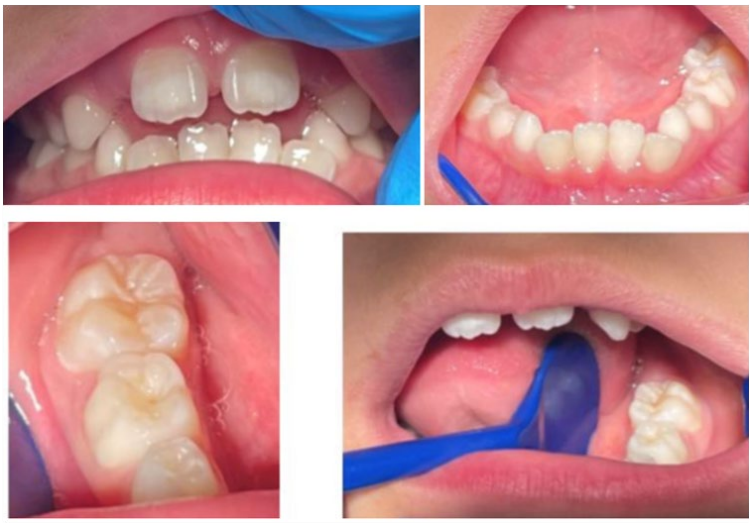

Figure 3: Intra-oral examination revealing eruption of permanent incisors and first permanent molars, healthy oral soft tissues.

Radiographic evaluation in November 2023 revealed healthy bone quality and levels, with no evidence of trabecular bone loss,radiolucent lesions, or 'floating' teeth, as shown in Figure 4.

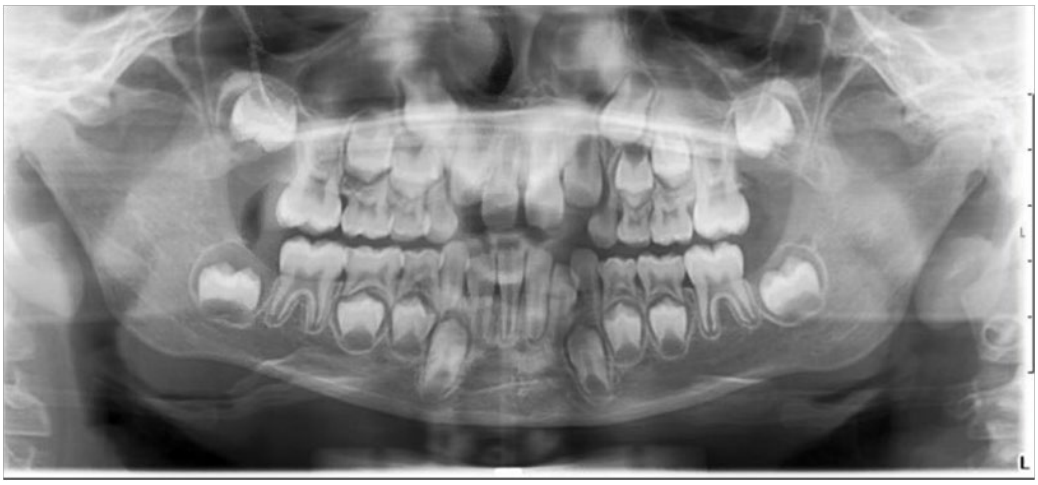

Figure 4: OPG Taken 1 Year Post Chemotherapy and Remission (November 2023) from Diagnosis of BL

In the 1 year review appointment at the Paediatric Dental Unit at Chelsea and Westminster Hospital NHS Trust, no dental treatment was indicated as oral hygiene was good and the dentition was caries free.

4. Differential Diagnosis

Differential diagnosis in this case included Papillon-Lefèvre syndrome (PLS) which is a genetic disorder involving skin (palmar-plantar hyperkeratosis) and periodontium in children 1-5 years old [34]. This was ruled out as skin, hair and nails appeared not to be affected. Bony cysts of the jaw may present as radiolucent lesions on DPT, however, the diffused lytic activity of marrow cells arising from facial bones in BL resulting in generalised bone loss and lamina dura ruled out cystic lesions. Ameloblastoma, fibrous dysplasia and cemento-osseous dysplasia were also considered, however, they are benign tumours of the jaw with peak incidence in the second to fourth decade. Ameloblastoma also shows a characteristic unicyclic and multiloculated radiolucent radiographic appearance with cortical expansion and breach, as opposed to the lytic radiolucent appearance of BL [35,36].

Neuroblastoma (NB) was considered due to ocular involvement with proptosis and periorbital oedema, 'racoon eye' appearance characteristic of NB [37]. Both Neuroblastoma and BL exhibit characteristically soft consistency of swelling. Neuroblastoma derives from the Neuroblast cells and affects nerves, developing nerve tissues along spine, thorax, abdomen, and pelvis. Similar to BL, peak incidence is 1-5 years old and while NB is primarily asymptomatic. When symptoms are present, they occur as similar B symptoms as in this case of BL (lethargy, weight loss, fever). NB symptoms are also associated with adrenal glands and almost half present with abdominal issues such as diarrhea, distension, constipation. Skin involvement with NB consists of 'blueberry muffin syndrome' due to blue subcutaneous nodules, which were absent in this case of BL.

Langerhans cells histiocytosis (LCH) was another differential diagnosis as both BL and LCH arises from immune cells of the body with a peak incidence of age 1-4 years old. Both involve long bones and bones of head and neck [38,39]. LCH was considered due to ocular involvement as exophthalmos may be a presentation. Both LCH and BL may present with hepatosplenomegaly, anaemia, neutropenia and abdominal symptoms. However, pelvic mass biopsy revealed characteristic starry sky appearance characteristic of BL, as opposed to coffee bean appearance of histocytes in LCH and the diagnostic gold standard presence of tennis racquet-shaped Birkbeck Granules. Radiographic differences include solitary lytic radiolucent lesions in LCH and diffuse lytic radiolucency in BL. Furthermore, skin lesions (varying from crusty, scaly exophytic nodules to blisters, papules or macules) are most common and characteristic feature of LCH which were not present in this case.

Osteosarcoma, as the name applies, is a tumour affecting bones. Most affected bones are long bones of arms and legs with less propensity for jaw and skull bone involvement. Histopathology reveals classic appearance of being glassy, densely eosinophilic, and homogenous osteoid [40]. Although, it may affect younger children (less than 10 years old), it is associated with pubertal growth spurt and highly prevalent in teenagers. This was considered only on an initial clinical basis due to the ocular involvement as Osteosarcoma may be associated with Retinoblastoma. DPT may show mixed areas of radiolucency and radio-opaque calcified lesions and sunray type periosteal reaction due to sclerotic activity in Osteosarcoma, which differs from the generalised diffused poorly localised radiolucency of BL. As there was no pain associated with long bones, Osteosarcoma was ruled out [34].

5. Discussion

The three main groups of oral and maxillofacial lesions that often affect children are salivary gland pathologies, reactive lesions, and odontogenic cysts [5,7,9,21]. Malignant tumours in children are extremely rare, accounting for less than 1% of all lesions, with Burkitt's lymphoma being the most common [3,6]. Paediatric lymphoma is about 10 % of all malignancies under 15 years of age, and 60 % of paediatric lymphomas is NHL [13,22,23]. Although girls are more affected by maxillofacial lesions, boys are more affected by Burkitt's lymphoma [1,3,8]. Our case exhibited typical clinical characteristics of this neoplasm, such as jaw

involvement including floating teeth, generalised bone resorption, tooth mobility and multiple visceral organs involvement [2,3,7]. This case was a characteristic presentation of multiple organs involvement including jaws, facial bones (orbit), visceral organs (Spleen, abdomen, pelvis) [5,8,9,17].

In the epidemic BL cases, jaw lesions are reported in approximately 75% of cases, with multi-quadrant involvement. A sporadic BL lesion in the jaw may present as an extra nodal tumour composed of a monoclonal proliferation of undifferentiated B cells [2,3,7,14]. Abnormal tooth mobility and floating teeth should be an indication of a sinister underlying cause. Other symptoms may include painless firm, soft mass, erythema, swelling imitating a peripheral abscess [17-19]. However, thorough, and appropriate investigations need to be undertaken to reach to a formal diagnosis [1,3,24,30].

In this case, consistent with BL affecting other facial bones, an orbital mass and proptosis of right eye was present for 2 weeks. As Kulczyk et al. described, cases located in the maxilla, an enlarging mass sometimes led to orbital swelling, proptosis, diplopia, and pruritus [5,9,13]. Radiographic findings in the craniofacial region may reveal diffuse radiolucency with an irregular trabecular pattern [4,5,23,28,10]. In this case, diffuse radiolucency, floating appearance of teeth was noted, consistent with typical radiographic features and findings from other studies [5,8,9].

Paediatric patients who exhibit Burkitt's lymphoma with bone marrow involvement and those who exhibit Burkitt's leukaemia can achieve positive outcomes using prompt and effective multi-agent chemotherapy treatments [11,26,2830]. High levels of lactate dehydrogenase suggest poor prognosis [28,29]. However, in this case the patient remains in remission following intensive treatment. Following chemotherapy, all visceral masses reduced in size and subsided, as suggested in the review by Okebe et, al. [31]. All deciduous and prematurely erupted lower central incisors were firm and non-mobile within two months following chemotherapy initiation. Therefore, early detection, multidisciplinary approach and treatment with Intensive chemotherapy leads to long term survival rates of 60-90% for Paediatric patients [28-30]. While Burkitt's Lymphoma remains a rare diagnosis within oral pathology, the potential to mimic dental conditions makes awareness crucial [7,23,24]. Accurate diagnosis hinges on a detailed clinical, radiographic, and potentially histopathological evaluation. This awareness can facilitate early intervention, promoting chances of remission, improving prognosis and save lives with a positive long-term outcome. Generally, treatment provides favourable high cure rates (80-90%) in paediatric patients if diagnosed early and treated appropriately.

A variety of signs and symptoms of BL in the craniofacial region should be considered by clinicians. Some common conditions for this group age, such as acute periapical lesions [9], periodontitis and the presence of foreign bodies in the oral cavity and may be the initial diagnosis when soft or hard tissue masses are noticed. In such circumstances, the clinical and radiological examination should confirm the initial diagnosis. Alarming signs of a periapical inflammation-like condition in non-carious teeth is a good example, along with deciduous teeth mobility of posterior teeth which are chronologically not near exfoliation. Atypical tooth morphology with shorter than-expected and widened roots should be considered and investigated [1,2,9,11,25].

6. Conclusion

Burkitt's lymphoma is a highly aggressive yet treatable paediatric malignancy. Early recognition, prompt diagnosis, and aggressive treatment are essential for improving outcomes in affected children. BL can present with a range of oral manifestations that significantly impact patient quality of life. Early recognition and accurate diagnosis are crucial for effective management. Given its aggressive nature, timely intervention is necessary to improve outcomes.

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