**Abstract:** Giant cells are large multinucleated cells of different lineage. Diagnosis of many lesions of the oral cavity is challenging to most clinicians because of their uncommon prevalence. A number of cystic, metabolic, osteodystrophic, microbial, tumour and tumour like lesions of the oral cavity present with characteristic giant cell lesions which makes their diagnosis and study simpler. We have attempted to classify the common giant cell lesions of the oral cavity with their histological picture.

**Keywords:** Giant cell lesions, tumour, oral cavity

**INTRODUCTION:**
There are a number of lesions that occur in the jaws that contain giant cells within them. Giant cells which are associated in many pathologies are referred to as pathologic giant cells.

**CLASSIFICATION OF GIANT CELL LESION According To Paul Auclair et al [3]**

I. Entities in which giant cells are the predominant histologic finding and form the basis of their recognition:
- Central giant cell granuloma
- Giant cell tumor of bone
- Aneurismatic bone cyst
- Cherubism
- Brown tumor of hyperparathyroidism

II. Lesions containing giant cells
1. Infectious diseases
   **Bacterial**
   - Tuberculosis
   - Leprosy
   - Syphilis
   - Actinomycosis
   - Cat scratch disease
   **Viral**
   - Herpes
   - Measles
   **Mycotic**
   - Histoplasmosis
   - Blastomycosis

II. Inflammatory diseases of unknown origin
- Wegener’s granulomatosis

2. Metabolic
- Histiocytosis X

3. Neoplastic
   **Benign**
   - Giant cell fibroma
   - Osteoblastoma
   **Malignant**
   - Chondrosarcoma
   - Hodgkin’s disease
   - Burkitt’s lymphoma.

For the description of giant cell lesions, we are following Paul Auclair et al’s classification.
2) LESIONS CONTAINING GIANT CELL

I) INFECTIOUS DISEASES

A. BACTERIAL LESIONS

i) TUBERCULOSIS:

Fig (a) Central Giant cell Granuloma

Fig (b) Peripheral Giant Cell Granuloma showing Multinucleated giant cells.

Fig (c) Giant Cell Tumor showing Numerous giant cells lying in a cellular matrix measuring about 40μ in diameter.

Fig (d) Cherubism showing Multinucleated giant cells (arrow)

Fig (a) Tuberculosis showing Areas of necrosis surrounded

Fig (b) Areas showing multinucleated giant cell, lymphocytes and epithelioid cel by collars of epitheloid cells

ii) LEPROSY (Hansen’s disease) [2] TUBERCULOID LEPROSY

Fig (a) Well formed clusters of epithelioid histiocytes, lymphocytes and giant cells.
LEPROMATOUS LEPROSY

Fig(b) Sheets of lymphocytes

B: VIRAL LESIONS[3]
i) MEASLES

Fig(a) Characteristic multinucleated macrophages, known as Warthin Finkeldey giant cells.

C: FUNGAL INFECTIONS[3]
i) HISTOPLASMOSIS:

Fig(a) Macrophages organized into granulomas

D: BENIGN NEOPLASTIC LESIONS
i) GIANT CELL FIBROMA[4]

Fig(a) Vascular fibrous connective tissue, which is usually loosely arranged.

Fig(b) Large stellate and multinucleated fibroblasts

ii) OSTEOBLASTOMA:

Fig (a) Foci of osteoid with multinucleated giant cells.
E: MALIGNANT NEOPLASTIC LESIONS

i) CHONDROSARCOMA [3, 5]:

![Fig (a)](image1.png) Binucleated cartilaginous cells with pleomorphism.

![Fig (b)](image2.png) Clustered benign giant cells

ii) HODGKIN’S LYMPHOMA [6]:

![Fig (a)](image3.png) Owl-eye appearance

![Fig (b)](image4.png) Mixed cellularity by Hodgkin’s disease is characterized by lymphocytes, plasma cells, eosinophils and easily identified Reed – Sternberg cells.

iii) BURKITT’S LYMPHOMA:

![Fig (a)](image5.png) Sheets of tumor cells that exhibit round nuclei with classic starry sky pattern.
F: INFLAMMATORY DISEASE OF UNKNOWN ETIOLOGY

i) SARCOIDOSIS[3]

Fig(a) Schaumann bodies.

Fig(b) Asteroid bodies.

Fig(c) Langhan’s type of giant cell.

ii) CHEILITIS GRANULOMATOSA

Fig(a) Dense infiltrate of the submucosal connective tissue with focal non-necrotizing granulomas with Langhan’s type of giant cell.

G: FIBRO-OSSEOUS LESIONS[3,6]

i) FIBROUS DYSPLASIA

Fig(a) Cellular fibrous connective tissue containing irregular trabeculae of immature bone which are not lined by osteoblasts in Fibrous Dysplasia.

ii) PAGETS DISEASE

Fig (a,b) Basophilic reversal lines in the bone with large multinucleated osteoclasts seen in Pagets disease of bone.

H: METABOLIC

i) XANTHOMA[7]

Fig (a) Foamy histiocytes with central small, round nucleus
I) REACTIVE LESIONS[3]

Fig(a) Various sized endothelium lined channels with mixed inflammatory cell in filtrate in Pyogenic granuloma.

J) CYSTS[8]

Fig(a) Cholesterol clefts with multinucleated giant cells in Radicular cysts.

Fig(b) Cystic lumen lined by odontogenic epithelium and areas of “Ghost” epithelial cells projecting into the lumen with areas showing calcification and giant cell formation in Calcifying Odontogenic cyst.

K) BENIGN NEOPLASTIC LESION

i) BENIGN FIBROUS HISTIOCYTOMA[3]:

Fig(a) Multinucleated giant cells.

Fig(b) Scattered/foamy histiocytes.
CONCLUSION

A variety of oro-facial lesions contain multinucleated giant cells. Some giant cells forming within the body are pathognomonic and some are not pathognomonic of their respective lesions. For example, in giant cell lesions like Hodgkins’s lymphoma, peripheral and central giant cell granulomas and giant cell tumor the multinucleated giant cells are found to be pathognomonic. In lesions like tuberculosis, HIV, measles, xanthoma multinucleated giant cells are characteristic but are not pathognomonic.

Currently, there are no steadfast histopathologic criteria for distinguishing between aggressive and non-aggressive giant cell lesions. Documentation of such criteria would be of great assistance in planning excision and in predicting surgical program.

With diligence and endurance this is an attempt to assemble all the giant cell containing lesions of the oral cavity under one cover, which would help us to report a definitive diagnosis for these lesions for an exact treatment so that recurrence and perplexity can be conquered which in the long run leads to the wellbeing of the patients.

REFERENCES

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