

Dear editor,

Thank you for accepting the manuscript for publication.

We attach a point wise response to the reviewer comments as follows:

1. There are many cystic and solid lesions in the mandible, such as fibrous dysplasia. Why do you choose to differentiate between central giant cell granuloma and ameloblastoma? Please introduce the difficulties of differential diagnosis between them in the preface and look for literature support. 2. Please modify the chart according to the relevant format of the publishing group.

We thank the reviewer for pointing this out and we have added the following to the preface with associated supporting literature.

The most current World Health Organisation classification of jaw tumours places giant cell granulomas under “giant cell lesions and simple bone cyst”. These include both central and peripheral giant cell granulomas(1). Central giant cell granuloma (CGCG) usually appears as an expansile, multiloculated lesion with post-contrast enhancement and soft tissue extension(2–4). Histologically it is characterized by focally distributed giant cells, spindle cells and possible areas of haemorrhage. A similar radiological and histopathological appearance may also be seen in brown tumours of hyperparathyroidism, and further clinical and laboratory correlation is required whenever aggressive, atypical or multiple CGCGs are seen(1,5). CGCGs are slow-growing and insidious, though, increased rates of growth, presence of pain, tooth resorption or cortical erosions are considered signs of aggressive behaviour(2,3,6). CGCGs are relatively rare and tend to occur with a female preponderance in the second decade of life. Accelerated growth during pregnancy or following child-birth suggests hormone responsiveness of CGCGs. Though the exact pathophysiology of the tumour is yet to be elucidated: a reparative response to trauma, haemorrhagic products and inflammation is presumed to result in tumorigenesis. The classical lytic multilocular appearance of CGCGs on radiographs makes their differentiation from ameloblastomas, odontogenic cyst, aneurysmal bone cysts, and odontogenic fibromas difficult(3,7). This differentiation is, however, vital because CGCGs are treated less aggressively [curettage, intralesional interferon, steroids or calcitonin injections(8)] as compared to other lesions with a similar radiological appearance. Ameloblastomas are by far is the most prevalent odontogenic tumour in the developing world(9), constituting about 14% of all jaw lesions(10). Though benign; ameloblastomas exhibit an aggressive growth pattern, with up to 70% of cases (11) undergoing malignant transformation. It presents most frequently in males, in their third to fifth decades of life, as a slowly progressive swelling. The lesion favours the posterior mandible (63.15% of all cases as per one study(12)) and on imaging is a close differential of CGCGs with its unilocular or multilocular, lytic, expansive appearance(13). Ameloblastomas are treated more radically and aggressively [with block resection, radiation therapy, vemurafenib(14)] vis-à-vis CGCGs making differentiation between the two crucial clinically.

Reviewer2:

It may be more appropriate to adjust the part about tumor size in Table 2 (expression about the histogram parameters comparing the extent of enhancement seen in the soft tissue component of ameloblastomas and Central Giant Cell Granulomas) to table 1.

We thank the reviewer for this suggestion and it has been incorporated into the manuscript.

Why two 95% confidence intervals appear in Table 3 ? The position of volume in Table 3 confused me.

We apologise for confusion, and the heading should read 5-95%C.I and this has been updated accordingly.

Regarding the AUC analysis, whether the ROC curve of the parameters with distinguishing value could be provided? which is more intuitive to evaluate the parameters with differential diagnostic value and the corresponding threshold.

We thank the reviewer for this suggestion. We had avoided including the ROC curves because they provide the same information as the AUC in table 3 and we already had several figures in the manuscript.

MR is not involved in the research content of the paper. Is table 4 deleted?

While MR is not a part of the research content of this paper, we felt it was appropriate to include the MR differentiating features in table 4 as a condensation of the information available in the current literature. We are willing to remove the details about MR if the editorial board deem it essential.

Whether the the red text in the results can be integrated into the relevant content in the discussion.

We have moved the red text highlighted by the reviewer to the discussion part of the manuscript.