(1) Please provide the Figures cited in the original manuscript in the form of PPT. All text can be edited, including A, B, arrows, etc. All legends are incorrectly formatted and require a general title and explanation for each figure. Such as Figure 1 title. A: ; B: ; C: .

Answer: We have uploaded the figures in the form of PPT and have made sure that all the text be edited, including A, B, arrows, etc. All legends are now correctly formatted and are given a general title and explanation for each figure

(2) Title: Abbreviations other than special types of words such as COVID-19 and SARS-CoV-2 are not allowed in the article title.

Answer: No abbreviations used in the title in the revised manuscript

(3) Authors are required to provide standard three-line tables, that is, only the top line, bottom line, and column line are displayed, while other table lines are hidden. The contents of each cell in the table should conform to the editing specifications, and the lines of each row or column of the table should be aligned. Do not use carriage returns or spaces to replace lines or vertical lines and do not segment cell content.

Answer: We have uploaded standard three-line tables, conforming to the editing specifications,

(4) The "Article Highlights" section is missing. Please add the "Article Highlights" section at the end of the main text (and directly before the References).

Answer: Article highlights is added as follows:

Article Highlights:

Research background:

Enhancement characteristics of the solid component in jaw tumors are not adequately studied in the literature. The majority of the literature on jaw tumors is based on morphological analysis alone. Studying the enhancement characteristics using contrast-enhanced dual-energy computed tomography (DECT) can potentially alleviate the challenge of discriminating jaw lesions without a biopsy, while at the same time providing fast imaging and material decomposition algorithms and increasing the diagnostic confidence of radiologist

Research motivation:

The motivation behind this study is that in this era of non-invasiveness, the majority of jaw tumors are still diagnosed by biopsy, while imaging is mainly used for pre-operative evaluation. In addition to its invasiveness, a biopsy can also be misleading many times due to frequent inadequate sampling, such as secondary bleeding, infection, or aneurysmal bone

cyst formation. Developing an imaging strategy to differentiate these lesions and providing a more accurate list of differentials, or sometimes a spot diagnosis can go a long way in helping both the clinician and pathologist in terms of patient diagnosis and management. This attempt to use contrast-enhanced DECT in jaw lesions can also be used to predict the aggressiveness of the tumor and classify it as benign, locally aggressive, or malignant.

Research objectives:

The main objective was to evaluate the role of contrast enhancement and dual-energy quantitative parameters in the differentiation of jaw tumours using contrast-enhanced dual-energy computed tomography (DECT). We achieved both of them, and the quantitative analysis of dual energy parameters based on material decomposition algorithms yielded interesting findings. In the future, this can be a starting point where a further increase in the sample size and spectrum of lesions can provide a more comprehensive imaging classification of jaw tumors.

Research methods:

The research methods that were adopted to realize our objective were as follows:

Routine statistical tests were used for continuous variables (summarized as mean ± standard deviation) and categorical values (summarized as proportions), where the comparison of the mean ± standard deviation between the two groups was done using an independent sample t-test and the comparison of proportions between the two groups was done using the chi-square test.

In addition to that, we used a novel method to analyse the various subgroups of jaw tumors as we compared more than two independent groups for the analysis of DECT quantitative parameters. A one-way ANOVA test was performed for variables that showed a normal parametric distribution (mean HU at 65 kev, ICL, WCL) and a Kruskal-Wallis H test for non-parametric variables i.e normalised iodine concentration (NIC). If significant differences were discovered, we conducted a series of independent t-tests and Mann-Whitney U tests to determine the source of the difference. The value of $p < 0.05$ was considered statistically significant. The diagnostic performance was evaluated by calculating the area under the ROC curve (AUC).

Research results:

The most common pathology was ameloblastomas, and they showed significantly increased values of DECT parameters, which were indirect markers of vascularity, compared to non-ameloblastomas except for the central giant cell granulomas (CGCG). Central giant cell granulomas had a significantly increased iodine concentration, mean HU value, water concentration, and normalized iodine concentration compared to ameloblastomas. An iodine concentration (IC) threshold of 31.35 × 100μg/cm3 had the best maximum sensitivity and

specificity to differentiate between ameloblastomas and central giant cell granulomas. An interesting finding was that when comparing unilocular ameloblastomas with OKCs, the latter showed significantly higher water concentrations (WC). Also, ameloblastoma had a higher IC and lower WC compared to the “other jaw tumors” group.

Thus, the enhancement characteristics of solid components, including the quantitative dual-energy parameters, can offer a more precise way to differentiate between jaw tumors.

In the future, analysis with a larger number of cases within the “other jaw tumor” group can provide a comparison of separate pathological lesions rather than subgroups.

Research conclusions:

We propose that when encountered with a jaw tumor on imaging if a contrast-enhanced dual-energy CT is performed, the lesions could be classified as suggestive of CGCG, OKCs, ameloblastomas, and other jaw tumours based on mean HU, IC, WC, and NIC.

Hence, DECT can help with both morphological and functional classification of jaw tumors and distinguish between various jaw tumors that closely resemble each other in conventional imaging.

Our study contributes to the existing body of literature, confirming the technical feasibility of single-source spectral CT imaging, which relies on the differentiation of iodine and water, as a valuable tool for quantitatively distinguishing ameloblastoma from other jaw tumors.

A new method of classification of jaw tumors based on morphology and quantitative DECT parameters is proposed by this study

Research perspectives:

This research could pave the way for further attempts to use contrast-enhanced DECT to predict the biological nature of the tumor and classify it as benign, locally aggressive, or malignant. Also, a larger study with the inclusion of a larger number of cases within the entities of each subgroup can provide a comparison of separate pathological lesions, which will be more accurate and challenging. It can result in a more comprehensive imaging classification of jaw tumors.

(5) Medical ethics: Please provide the Biostatistics Review Certificate

Answer: We have uploaded along with the revised manuscript.

(6) Please provide the filled conflict-of-interest disclosure form

Answer: We have uploaded along with the revised manuscript.