Letter to Editor
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Artificial Intelligence in Oral and Maxillofacial Radiology- New Trend in Image Assessment

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I am writing to share my professional opinion regarding the application of Artificial intelligence (AI) in oral and maxillofacial radiology. Intelligent systems (i.e., AI), are machines able to mimic the cognitive functions of humans to perform tasks of problem-solving and learning. AI is becoming important in radiology due to its ability to detect abnormalities in radiographic images. These systems have reduced radiologists' workload by rapidly recording and presenting data, and thereby monitoring the treatment response with a reduced risk of cognitive bias. Some of the most common applications of AI in dentomaxillofacial radiology are: tooth and implant classification and identification, 3D cephalometric landmark detection, lesion detection (periapical, jaws, and bone), and osteoporosis detection. [1-3] Various studies have shown high accuracy of AI in comparison to human, e.g. Son et al., indicated high accuracy of vertical root fracture detection (92.74%) using AI systems. [4] Therefore, these intelligent systems have an important role to play and could be used by dentists as an adjunct to other imaging modalities in making appropriate diagnoses and treatment plans.

However, AI potentials and pitfalls should be thoroughly assessed especially in critical cases. AI programs need substantial cases for training and Failure to assemble a sufficiently large enough training set is a pitfall leading to a less accurate and generalizable results. [5] Even when achieving high success rates, radiologists' supervision is necessary in most cases.

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