Artificial Intelligence in Senology: Comment

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Dear Editor,

We would like to comment on "Artificial Intelligence in Senology - Where Do We Stand and What Are the Future Horizons?" (1). Artificial intelligence (AI), which includes deep learning, has brought interest owing to its feasibility to mimic human intelligence and further transform a number of activities and result in usefulness in industries as well as healthcare. AI-based image analysis in breast screening programs has demonstrated encouraging results in terms of reduction of workload and increasing sensitivity. ChatGPT as well as other natural language software have proven to be highly accurate in giving decisions, however, many issues with patient safety and legal requirements still require to be managed. The primary advantages of AI are the high speed and effectiveness in handling complicated works; nevertheless, there are certain drawbacks that had to be taken into concern, including cybersecurity, employment displacement in the healthcare industry, and stability of the system.

AI is still in its early phase in the subject of senology, and there is still further opportunity for performance and dependability to be upgraded. For AI systems to be safe and effective in real-world usages, the systems must be responsibly trained using high-quality data and subjected to rigorous scientific review. To reduce hazards and maintain public confidence in emerging technologies, it will be necessary to strike a balance between AI promotion and control. Introduced in December 2023, the AI Act by the European Union is an important step in creating all-encompassing legal frameworks for AI governance as well as accountability.

AI must be utilized in conjunction with human skill, empathy, and ethical considerations, even while the AI has the possibility to improve medical procedures and healthcare delivery. Achieving significant progress in senology and other medical sciences would require fusing the advantages of AI with human judgment and empathy. Sufficient research, cooperation, and regulatory monitoring are necessary for directing the conscientious and effective application of AI in healthcare and guaranteeing good consequences for both patients and healthcare providers. The importance of ethical considerations and human-machine collaboration in the development and application of AI in senology and healthcare in general have received little attention.

A further interesting area of researching is the probability ethical conundrums that the application of AI in senology may exist. There are concerns over patient privacy and clinical safety, even while AI may help improve the effectiveness and accuracy of clinical procedures. The ethical concerns should be addressed to confirm that the AI application is ethical way and do not lead to violation of the patients' rights. Furthermore, lesson learnt from the clinical practitioners who have experience in using AI in their clinical practice will be useful. Topics that should be assessed include how the AI help perform clinical decision making and affect daily clinical workload. For example, in our area in Indochina, the use of AI in clinical senology is already implemented in some private clinical center. Some private hospital already offer the additionally service including AI decision making as an alternative option for the patient in selecting their ways of breast disease therapy (see example at https://www.bumrungrad.com/th/health-blog/june-2022/using-ai-find-lung-disorders-and-breast-cancer). However, the technology is new and might be expensive and are currently limited used. The unofficial report from the private clinical setting claimed that the AI based breast radiology interpretation help early detect breast cancer in young female but there is still no publication on this issue in our area. Nevertheless, the derived data can further guide how the AI should be implemented in clinical senology practice. Accumulation of data from multi-setting about the advantages of using AI in clinical senology will help further better clinical care for the patients.

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231

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