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دانشگاه علوم پزشکی البرز

دانشگاه علوم پزشکی و خدمات بهداشتی درمانی البرز
معاونت تحقیقات و فناوری

Automated Detection of Pulmonary Embolism from CT-Angiograms Using Deep Learning

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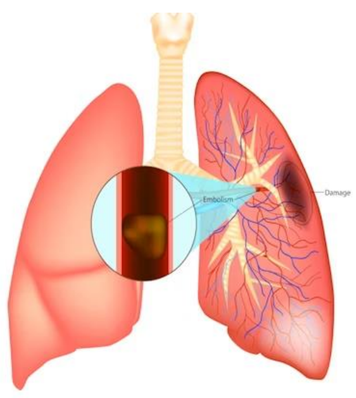
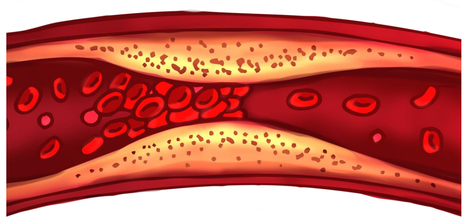
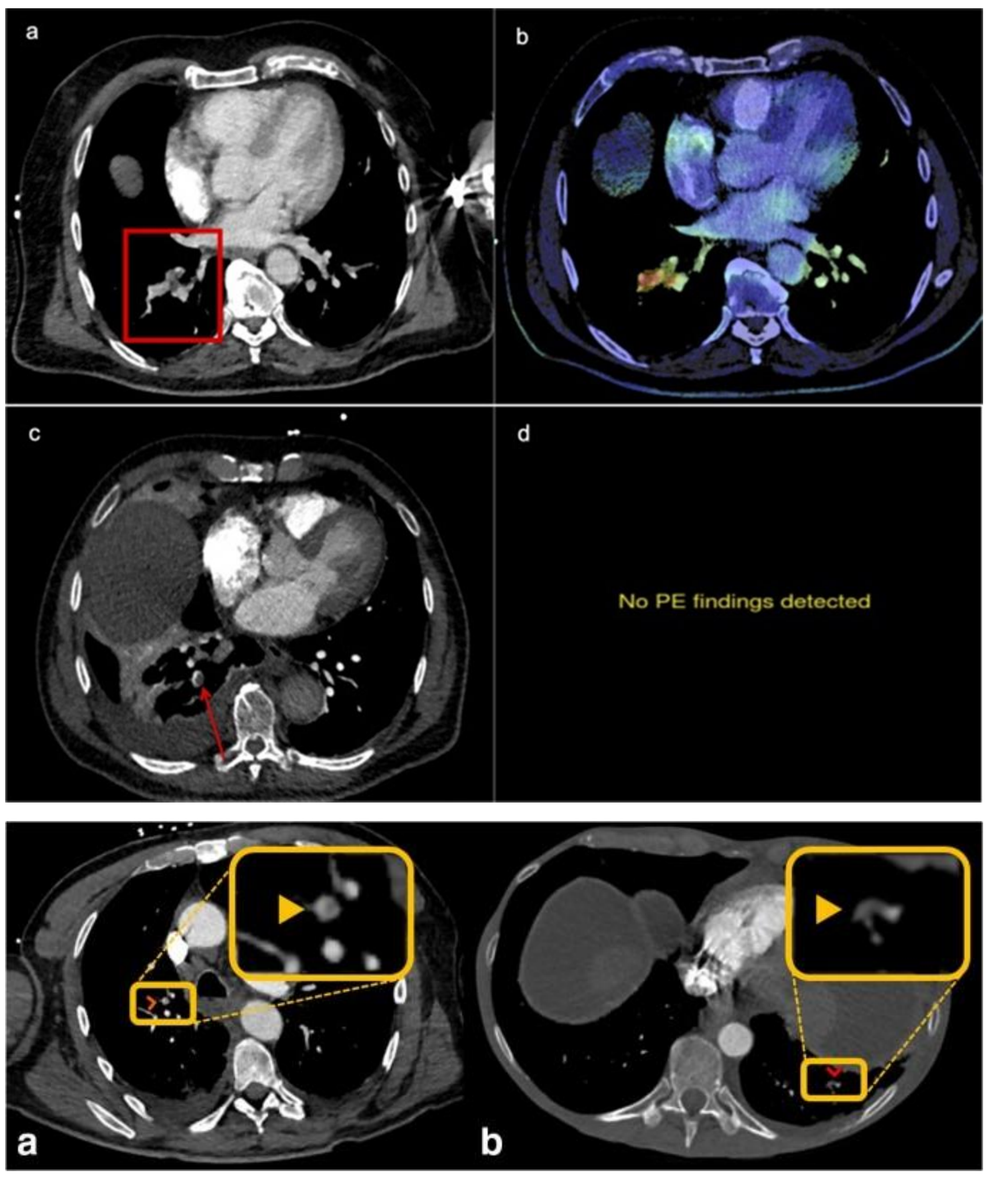
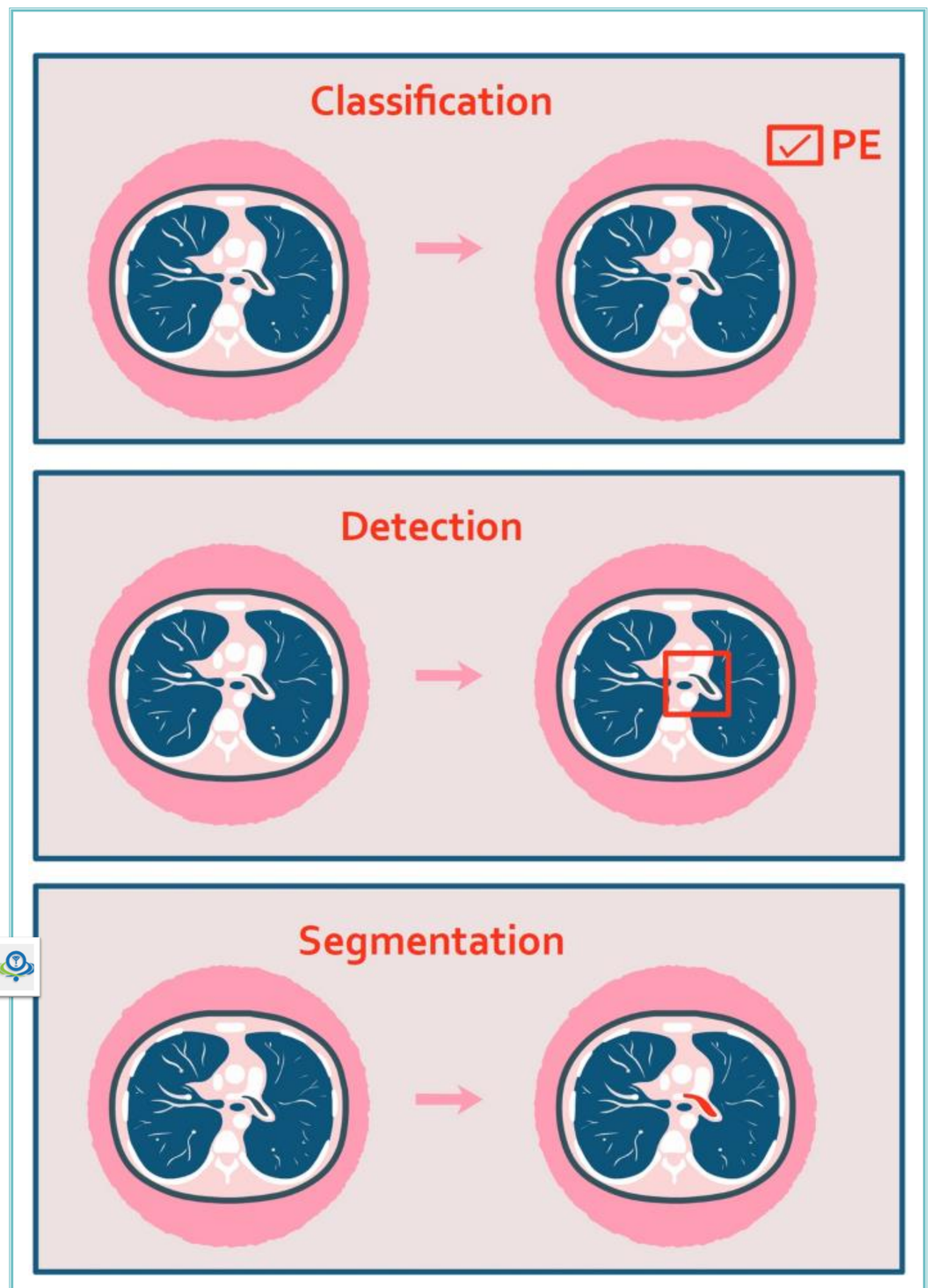
Introduction

Pulmonary embolism (PE) is a life-threatening condition with an estimated incidence rate of 60 per 100,000 people (1-3). PE symptoms are often nonspecific, such as dyspnoea and chest pain, and diagnosis can be difficult. Computed tomography pulmonary angiography (CTPA) is the gold standard in the diagnosis of PE (4), but correct interpretation of CTPA requires experience and time. However, the fact that the majority of CTPAs are negative may be due to physicians rarely using preoperative diagnosis or exclusion criteria and the increasing use of CT imaging (5, 6). In the published literature, the results of positive studies vary between less than 10% and 20-30% (5). Since the increased workload and fatigue brought about by working outside working hours may lead to more diagnoses in emergency radiology , PE machine automatic PE detection allows radiologists to avoid errors and pay attention to the importance of reading, quickly evaluate PE positivity









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