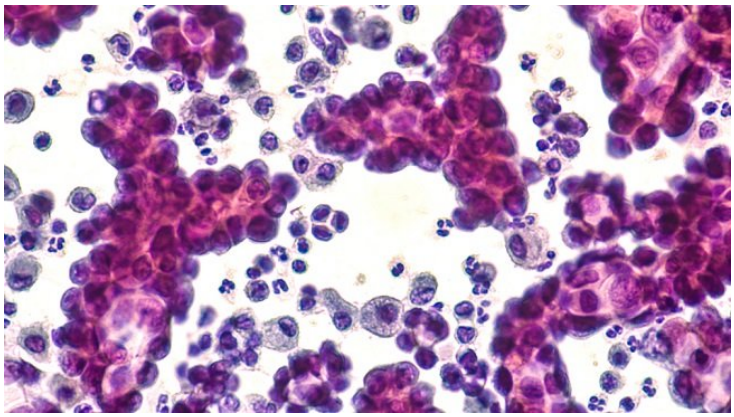
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# Scotland researchers deploy AI to automate tumor assessment in CT scans

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**The AI tool streamlines tumor (Mesothelioma) measurements, potentially making clinical trials of new drugs less expensive, less time-consuming and more accurate**



Canon Medical Research Europe, a Scottish firm specializing in next-generation medical imaging software, and the University of Glasgow are set to publish clinical findings from a study evaluating a new, world-leading AI-driven cancer assessment tool, developed as part of the Cancer Innovation Challenge.

Patients receiving treatment for the “asbestos cancer”, Mesothelioma, are being assessed with Artificial Intelligence (AI) as part of a prototype imaging system that could revolutionize the way people with the disease are cared for. Scotland currently has the highest incidence of Mesothelioma in the world, a reflection of the historical use of asbestos in many UK industries, including shipbuilding and construction.

The study team, which comprises AI and data scientists at Canon Medical and University of Glasgow clinical researchers based at the Queen Elizabeth University Hospital, and NHS Greater Glasgow and Clyde Research and Innovation staff, created a prototype AI system able to automatically find and measure Mesothelioma on CT scans, which are used to assess patient’s response to drug treatments like chemotherapy. The AI was trained by showing it over 100 CT scans, on which an expert clinician had drawn around all areas of the tumour – showing the AI what to look for. The trained AI was then shown a new set of scans and was able to find and measure the tumour extremely accurately, without any human input.

The tool, which could revolutionize the fight against cancer, intentionally focused on Mesothelioma given its prominence in Scotland and because it is one of the most difficult-to-measure cancers on CT scans. This is because it grows like a ‘rind’ around the surface of the lung, forming a complex shape - rather than a round ball like most tumours. The successful results of the project will provide a strong foundation for similar tools to be developed in the assessment of other cancers.

The AI tool streamlines tumour measurements, potentially making clinical trials of new drugs less expensive, less time-consuming and more accurate. Further validation work is in progress as part of an international ‘accelerator’ network funded by Cancer Research UK. The AI tool may soon be available to help doctors measure Mesothelioma on scans during treatment with greater precision and at a reduced cost.

Keith Goatman, Principal Scientist at Canon Medical, said: “The speed and accuracy of the AI algorithm could have a wide-reaching impact on Mesothelioma treatment. Accurate tumour volume measurements are much too time-consuming to

perform by hand. Automating these measurements will open the way for clinical trials of new treatments, by detecting even small changes in the tumour size. Ultimately, it could be used routinely in hospitals to decide the best treatment for each individual.