

P35 Opinions of UK gastroenterology consultants in the application of artificial intelligence in endoscopy

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Introduction:

Recent advances in artificial intelligence (AI) have resulted in new AI applications for endoscopy. The aim of this study is to provide insight into the opinions of key leaders in Gastroenterology in the UK of these technologies.

Methods:

An anonymous quantitative questionnaire was administered to 22 UK Gastroenterology consultants at a dedicated AI in Gastroenterology national consensus conference. Baseline demographic data and previous colonoscopy experience for each participant was collected. The questionnaire explored the following topics:

- How AI in endoscopy might impact on an endoscopist's pattern recognition of lesions if they are a novice or an expert
- Likelihood that endoscopists might lose the competence to override AI diagnosis
- Support for using AI in endoscopy if it improves clinical patient outcomes but remains a black box
- Apportion of liability for misdiagnosis if a lesion is "missed" during colonoscopy assisted by an AI polyp detection system
- The perceived risk of a two-tier healthcare system emerging in the NHS between those hospitals which do and do not use AI support

Results:

The questionnaire was completed by 22 participants. Two incomplete forms were excluded. Participants' demographic data and colonoscopy experience are shown in Figure 1.

Most participants think AI would improve endoscopist visual pattern recognition skills, more for novices (75%) than for experts (55%). The majority (65%) recognised the risk that in future, endoscopists may lose the competence to override AI diagnoses, but only a minority of 15% thought this was likely.

There was a strong consensus (60% for, 20% against) that an unexplainable but clinically efficacious AI system would be acceptable, but there were concerns of a two-tier healthcare system emerging with a quarter thinking this was likely and the majority of 60% recognising that this was possible. A clear majority of 70% thought that the endoscopist should be liable for any misdiagnosis, with 10% considering that liability should lie with the hospital and 5% with the AI manufacturer; 15% were uncertain about how to apportion liability.

Discussion:

Consultants in this study support the use of clinically efficacious AI systems in endoscopy regardless of 'explainability' but careful consideration is required to prevent a two-tier healthcare system emerging and to determine liability in the event of misdiagnosis.

Consideration is needed on how to monitor endoscopist skills given concerns that use of AI could result in endoscopist losing the competence to override AI diagnoses.

Total number of participants	20
Male	90% (18/20)
Female	10% (2/20)
Average Age	44 years old
JAG accredited	20/20 (100%)
BCSP accredited	9/20 (45%)
Average number of colonoscopies performed	8094 (range = 1,000 – 30,000)
Previous experience in using AI device in endoscopy	12/20 (60%)

Figure 1: Participants' demographic data and colonoscopy experience