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**Optimal age to discontinue long-term surveillance of intraductal papillary mucinous neoplasms**

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Intraductal papillary mucinous neoplasms (IPMN) are premalignant pancreatic lesions, with absolute indications for surgery on IPMNs including the presence of jaundice, main duct dilatation above 1cm, enhancing mural nodule >0.5cm and positive fine needle aspiration (FNA) cytology. Patients with IPMNs not deemed to warrant surgical resection, who would be surgical candidates potentially in the future, are placed under radiological surveillance.

This study sought to construct a Markov model using patient data to assess at what age radiological surveillance ceased to be cost effective assuming a threshold of $100,000 per quality-adjusted life year (QALY). The input data was from meta-analyses, cohort data as well as two Japanese data sets; a 3,000-patient cohort of IPMN patients, and a 40,161-patient cohort who had undergone pancreatectomy for neoplasia. The model assumed ongoing imaging and tumour marker surveillance including post-surgery based on risk profile. Modelled patients with concomitant adenocarcinoma and unresectable cancer underwent chemotherapy while resectable IMPNs underwent pancreatoduodenectomy +/- subsequent total pancreatectomy.

Assuming diagnosis at the age of 60 years, the model found that in males surveillance ceased to be cost effective at 76-78 years old in all IPMN types. In women the threshold was crossed at 70, 73, 81 and 84 years old for branch duct IPMNs <10mm, 20-29mm, >30mm and mixed type IPMNs respectively. Modelling moderate comorbidity as a threefold increased chance of non-pancreatic mortality reduced the cost-effective surveillance interval to 2-4 years for males and made all surveillance non-cost effective in female patients.

The patient and cost data largely relied on data from the USA and Japan, this coupled with varying QALY thresholds globally (~$77,000 in current UK Treasury guidelines vs. $100,000 in the study) makes it challenging to generalise the study’s findings to other healthcare systems. Nevertheless, the finding of the importance of tumour characteristics, gender, and co-morbidities to the cost efficiency of surveillance could allow a more individualised approach to IPMN surveillance in the future.