



AB151. SOH23ABS_207. Needle in a haystack

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Background: A 46-year-old lady of Japanese ethnicity with a family history of gastric adenocarcinoma was referred with reflux symptoms. Diagnostic and staging investigations were contradicting on multiple biopsies for malignancy which prompted repeat endoscopic investigations. Ultimately deoxyribonucleic acid (DNA) specimen provenance testing, an outsourced molecular diagnostic test that compares DNA from different samples, was utilised to prove genetic identity and clinch the diagnosis.

Methods: The first oesophago-gastric-duodenoscopy (OGD) and biopsy showed poorly differentiated gastric adenocarcinoma. Subsequent OGD and Staging laparoscopy were negative for metastatic disease and mapping biopsies were negative for malignancy. The quality of samples were 'severely compromised by processing errors', which prompted repeat endoscopy and multiple biopsies that were also negative for malignancy. DNA provenance testing was then utilised to cross-examine samples.

Results: The original biopsy samples that were positive for poorly differentiated gastric adenocarcinoma were genetically identical to the samples with negative biopsies. Thus confirming that the samples were from the same person and excluding a specimen mix-up. The conclusion was a definitive diagnosis of gastric adenocarcinoma. A sub-total distal gastrectomy was performed with the final pathology being an invasive poorly differentiated adenocarcinoma—pT1aN0R0.

Conclusions: This case presents an important clinical dilemma requiring considered clinical decision-making.

Specimen provenance complications (SPC) have been documented in the literature with some high-profile cases in the media documented across specialties with significant medico-legal implications. This case highlights the potential ways in which SPCs can occur and proposes means by which they can be avoided and rectified to ensure accurate diagnoses and appropriate management of patients.

Keywords: Gastric; adenocarcinoma; provenance; deoxyribonucleic acid (DNA); histopathology

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Footnote

Conflicts of Interest: The authors have no conflicts of interest to declare.

Ethical Statement: The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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