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SYNCHRONOUS GASTRIC EXTRAMEDULLARY PLASMACYTOMA AND DUODENAL NEUROENDOCRINE TUMOUR: A RARE ASSOCIATION

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ABSTRACT

Introduction: Gastric extramedullary plasmacytoma and duodenal neuroendocrine tumours are individually uncommon. Their synchronous identification creates diagnostic and management challenges.

Case description: A 54-year-old man investigated for iron-deficiency-pattern anaemia (haemoglobin 8.4 g/dl) underwent upper gastrointestinal endoscopy, revealing small gastric and duodenal subepithelial lesions. Following endoscopic resection in October 2023, histology demonstrated a gastric plasmacytoma with CD138 positivity and kappa light-chain restriction, and a well-differentiated grade 1 duodenal neuroendocrine tumour (Ki-67 <3%). The gastric lesion was less than 1 mm from the resection plane; complete histological clearance of both lesions could not be established from the available reports. Bone marrow, laboratory testing and imaging did not identify systemic plasma cell disease. Multidisciplinary surveillance was chosen without documented radiotherapy. Surveillance computed tomography in September 2025 showed no suspicious lesions, and gastric biopsies in September 2026 showed scar-related changes without neoplasia. At the last documented haematology assessment, the patient had no detectable serum monoclonal protein.

Discussion: This case illustrates the need to assess synchronous lesions independently and reconcile differing treatment recommendations. Long-term surveillance is particularly important after local excision of a plasmacytoma with a close margin.

Conclusion: Distinct synchronous gastric and duodenal neoplasms require specific histopathological diagnosis, systemic staging and multidisciplinary follow-up.

KEYWORDS

Extramedullary plasmacytoma, gastric plasmacytoma, duodenal neuroendocrine tumour, synchronous neoplasms, endoscopic resection

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LEARNING POINTS

- Different subepithelial lesions detected during the same endoscopy may represent separate neoplasms requiring independent histological assessment.
- A gastric plasma cell tumour requires marrow, biochemical and imaging evaluation to exclude multiple myeloma.
- After endoscopic excision of synchronous neoplasms, management and surveillance must account for tumour-specific guidelines and uncertain or close margins.

INTRODUCTION

Solitary extramedullary plasmacytoma is a localised clonal plasma cell neoplasm, most commonly arising in the upper aerodigestive tract; gastric localisation is unusual[1,2]. Duodenal neuroendocrine tumours (NETs) are also uncommon and may be detected as small subepithelial lesions during investigation for unrelated symptoms[3]. Although synchronous gastrointestinal neoplasms have been described[4], the occurrence of these two distinct synchronous neoplasms, a primary gastric plasmacytoma and a duodenal NET - appears exceptionally uncommon. We describe their diagnosis and a prolonged course of multidisciplinary surveillance after endoscopic excision.

CASE DESCRIPTION

A 54-year-old man with hypertension, dyslipidaemia and a previous transient ischaemic attack was investigated in 2023 for fatigue, intermittent rectal bleeding and microcytic hypochromic anaemia (haemoglobin 8.4 g/dl). Colonoscopy demonstrated haemorrhoids. An upper gastrointestinal endoscopy identified an approximately 8–9 mm gastric subepithelial lesion at the body-antrum transition and a 6–7 mm lesion in the duodenal bulb. Both lesions underwent endoscopic resection in October 2023. Haemoglobin normalised following iron supplementation.

The duodenal specimen showed a well-differentiated NET, grade 1, positive for CAM5.2, synaptophysin and CD56, with Ki-67 <3% and no identified lymphovascular or perineural invasion. The gastric specimen showed a plasma cell neoplasm positive for CD138 and kappa light chains, focally positive for CD56, and negative for lambda light chains, CAM5.2 and synaptophysin. The gastric lesion was less than 1 mm from the resection plane. The available duodenal pathology report did not specify complete histological margin clearance; therefore, R0 excision of both lesions cannot be confirmed from the documentation reviewed.

Staging showed no serum or urinary monoclonal component, a normal serum free light-chain ratio and no evidence of multiple myeloma on bone marrow aspiration and biopsy. Initial cross-sectional and fluorodeoxyglucose-positron emission tomography/computed tomography (FDG-PET/CT) examinations showed no definite systemic tumour involvement. A positron emission tomography–computed tomography (PET/CT) in February 2024 demonstrated non-specific diffuse gastric uptake and bilateral hypermetabolic plantar nodules, subsequently clinically attributed to plantar fibromatosis.

Following a multidisciplinary review in January–March 2024, active surveillance was selected for the plasmacytoma; oncological review likewise recommended surveillance for the duodenal NET. No radiotherapy or systemic antineoplastic therapy was documented. Surveillance endoscopy in April 2024 showed non-specific duodenitis and chronic antral gastritis. In September 2024, a gastric post-polypectomy scar was biopsied without significant morphological abnormalities, and no duodenal lesion was visualised.

A surveillance thoraco-abdominopelvic computed tomography (CT) on 30 September 2025 showed no suspicious gastric or duodenal thickening, adenopathy or bone lesions, acknowledging limited sensitivity for small mucosal abnormalities. At a haematology review on 27 May 2026 haemoglobin was 13 g/dl, serum monoclonal protein was absent and the free light-chain ratio remained normal. Gastric biopsies dated 28 September 2026 showed scar-like mucosal changes without neoplastic infiltration or Helicobacter pylori. Thus, approximately 35 months after resection, there was no documented gastric recurrence on sampled tissue or systemic plasma cell progression. The available records do not establish contemporaneous duodenal histological clearance in September 2026.

DISCUSSION

Histopathology was decisive in distinguishing two unrelated neoplasms with different lineage markers. Gastric CD138 expression and kappa restriction supported a localised plasma cell tumour, while synaptophysin expression and low proliferation established a well-differentiated duodenal NET. The distinction matters because a gastrointestinal plasmacytoma may also reflect systemic myeloma, necessitating marrow evaluation, sensitive serum and urine testing, and whole-body imaging[1,2].

The management of these lesions differs. ENETS guidance and observational data support endoscopic resection in selected small, well-differentiated, non-ampullary duodenal NETs without adverse features, followed by surveillance; uncertain histological margins require careful reassessment[3,5]. Our patient's duodenal tumour was small and grade 1, but the available report did not explicitly document R0 status.

Local radiotherapy remains the principal recommended

treatment of solitary plasmacytoma according to the 2026 International Myeloma Working Group guidance[1]. Nevertheless, retrospective series describe selected completely excised extramedullary plasmacytomas managed surgically without adjuvant irradiation[2]. Such evidence is heterogeneous and cannot establish equivalence with radiotherapy, particularly for gastric lesions with close or uncertain margins. In this case the multidisciplinary team selected surveillance, and no radiotherapy was documented. The gastric resection plane was less than 1 mm from the lesion; this should not be equated with confirmed R0 status.

Follow-up provides useful context: later gastric biopsies, including those from September 2026, did not show neoplasia, and biochemical assessment showed no monoclonal progression. This does not prove cure or remove the risk of local relapse or subsequent systemic disease. Surveillance findings also differ between sites: the 2026 pathology sampled the stomach, not a proven duodenal resection scar. Continued site-specific endoscopic and haematological monitoring remains warranted.

Literature on synchronous gastrointestinal primary tumours predominantly concerns epithelial neoplasms alongside NETs, while an identical gastric plasmacytoma-duodenal NET combination was not identified in the literature reviewed[4]. This observation suggests rarity, not a proven shared pathogenetic mechanism or a claim of first-ever occurrence. The principal lesson is the importance of independently characterising synchronous neoplasms and tailoring management to each tumour.

CONCLUSION

Synchronous gastric extramedullary plasmacytoma and duodenal NET pose distinct diagnostic and therapeutic challenges. Appropriate staging, explicit assessment of resection margins, multidisciplinary decision-making and long-term site-specific surveillance are essential, especially when management differs from the usual radiotherapy-based approach to solitary plasmacytoma.

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