

Spread of carcinoma of the stomach

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Gastric cancer is an excellent example of the various distant metastases that are uncommon in the absence of lymph node metastases. The intestinal and diffuse types of gastric cancer spread differently. The diffuse type spreads via the submucosal and subserosal lymphatic plexus and penetrates the gastric wall at an early stage. Direct spread The tumour penetrates the muscularis, serosa and ultimately adjacent organs such as the pancreas, colon and liver. Lymphatic spread This is by both permeation and emboli to the affected tiers (see Lymphatic drainage of the stomach) of nodes. This may be extensive, the tumour even appearing in the supra-clavicular nodes (Troisier's sign). Unlike malignancies such as breast cancer, nodal involvement does not imply systemic dissemination. Blood-borne metastases This occurs first to the liver and subsequently to other organs, including lung and bone. This is uncommon in the absence of nodal disease. Transperitoneal spread This is a common mode of spread once the tumour has reached the serosa of the stomach and indicates incurability. Tumours can manifest anywhere in the peritoneal cavity and

(c) Mucosa Submucosa Type 1 Muscularis Serosa Type 2 Type 3 Type 4 Figure 67.27 Borrmann classification of advanced gastric cancer: type 1, polypoid; type 2, ulcerating; type 3, infiltrating/ulcerating; type 4, infiltrating/linitis plastica. Figure 67.26 Early gastric cancer: (a) type I; (b) type IIa; (c) type III (courtesy of Dr GNJ Tytgat, Amsterdam, The Netherlands). (a) (b) (d) (c) Figure 67.28 Advanced gastric cancer: (a) type I; (b) type II; (c) type III; (d) type IV (linitis plastica) (courtesy of Dr GNJ Tytgat, Amsterdam, The Netherlands).

Tx Primary tumour cannot be assessed T0 No evidence of primary tumour Tis Carcinoma in situ : intraepithelial tumour without invasion of the lamina propria, high-grade dysplasia T1 Tumour involves lamina propria, muscularis mucosae or submucosa T1a Tumour invades lamina propria or muscularis mucosae T1b Tumour invades submucosa T2 Tumour invades muscularis propria T3 Tumour involves subserosa T4 Tumour perforates serosa (visceral peritoneum) or invades adjacent structures T4a Tumour perforates serosa T4b Tumour invades adjacent structures Nx Regional lymph nodes cannot be assessed N0 No regional lymph node metastasis N1 Metastasis in 1 or 2 regional lymph nodes N2 Metastasis in 3-6 regional lymph nodes N3 Metastasis in 7 or more regional lymph nodes N3a Metastasis in 7-15 regional lymph nodes N3b Metastasis in 16 or more regional lymph nodes M0 No distant metastasis M1 Distant metastasis Involvement of non-regional intra-abdominal lymph nodes such as retropancreatic, mesenteric and para-aortic groups is considered to be distant metastasis (M1) Involvement of the liver or the presence of peritoneal seedlings is also staged as M1 Staging IA T1 IB T1 T2 IIA T1 T2 T3 IIB T1 T2 T3 T4a IIIA T2 T3 T4a IIIB T3 T4a T4b T4a IIIC T4b Any T IV N0 M0 N1 M0 N0 M0 N2 M0 N1 M0 N0 M0 N3 M0 N2 M0 N1 M0

N0 M0 N3 M0 N2 M0 N1 M0 N3 M0 N2 M0 N0-1 M0 N3 M0 N2-3 M0 Any N M1

may be palpated either abdominally or rectally as a tumour 'shelf'. The ovaries may sometimes be the sole site of transcoelomic spread (Krukenberg's tumours). Tumour may spread via the abdominal cavity to the umbilicus (Sister Joseph's nodule). Transperitoneal spread of gastric cancer can be detected most effectively by laparoscopy and cytology.

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