



# Nomenclature and Lymphatic Drainage Patterns of Abdominal Lymph Nodes

## 복부 림프절의 명명법 및 림프 배액 패턴

Hyun Seok Cho, MD , Jhii-Hyun Ahn, MD\*

Department of Radiology, Yonsei University Wonju College of Medicine,  
Wonju Severance Christian Hospital, Wonju, Korea

### ORCID iDs

Hyun Seok Cho <https://orcid.org/0000-0002-1852-086X>

Jhii-Hyun Ahn <https://orcid.org/0000-0003-3784-9350>

The lymphatic system provides a route for the spread of inflammation and malignancies. The identification of nodal stations and lymphatic pathways of tumor spread is important for tumor staging, choice of therapy, and the prediction of the prognosis of patients with malignant diseases. Because lymph node metastasis is common in primary intra-abdominal malignant tumors, its detection is essential for radiologists to understand the pattern of disease spread. Using schematic pictures and color-coded CT images, this pictorial essay describes the locations and nomenclature of the abdominal lymph nodes. Furthermore, the lymphatic drainage pathways of the upper and lower gastrointestinal tracts, liver, gallbladder, bile duct, and pancreas have been highlighted. In addition, lymph nodes belonging to the regional lymph nodes in malignant tumors arising from each organ are described, and certain cases are presented with images from patients.

**Index terms** Abdomen; Lymph Nodes; Lymphatic System; Neoplasms

## INTRODUCTION

Lymph flow from the peritoneal space proceeds through the thoracic duct to the intrathoracic lymph nodes (1). This extracellular fluid then returns into circulation (2). In the abdomen, the pathways of lymphatic drainage accompany the blood vessels supplying or draining the organs, and are located within the peritoneal ligaments, mesentery, or mesocolon (3). Cells of the tumors affecting the gastrointestinal tract and abdominal organs enter lymphatic vessels and travel to the lymph nodes along the lymphatic drainage pathways. In other words, the lymphatic system provides a route for the spread of tumor cells.

Metastases to lymph nodes play a major role in tumor staging, choice of therapy, and pre-

Received December 9, 2021

Revised March 9, 2022

Accepted March 27, 2022

### \*Corresponding author

Jhii-Hyun Ahn, MD  
Department of Radiology,  
Yonsei University  
Wonju College of Medicine,  
Wonju Severance Christian Hospital,  
20 Ilsan-ro, Wonju 26426, Korea.

Tel 82-33-741-1474

Fax 82-33-732-8281

E-mail radajh@yonsei.ac.kr

This is an Open Access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (<https://creativecommons.org/licenses/by-nc/4.0>) which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

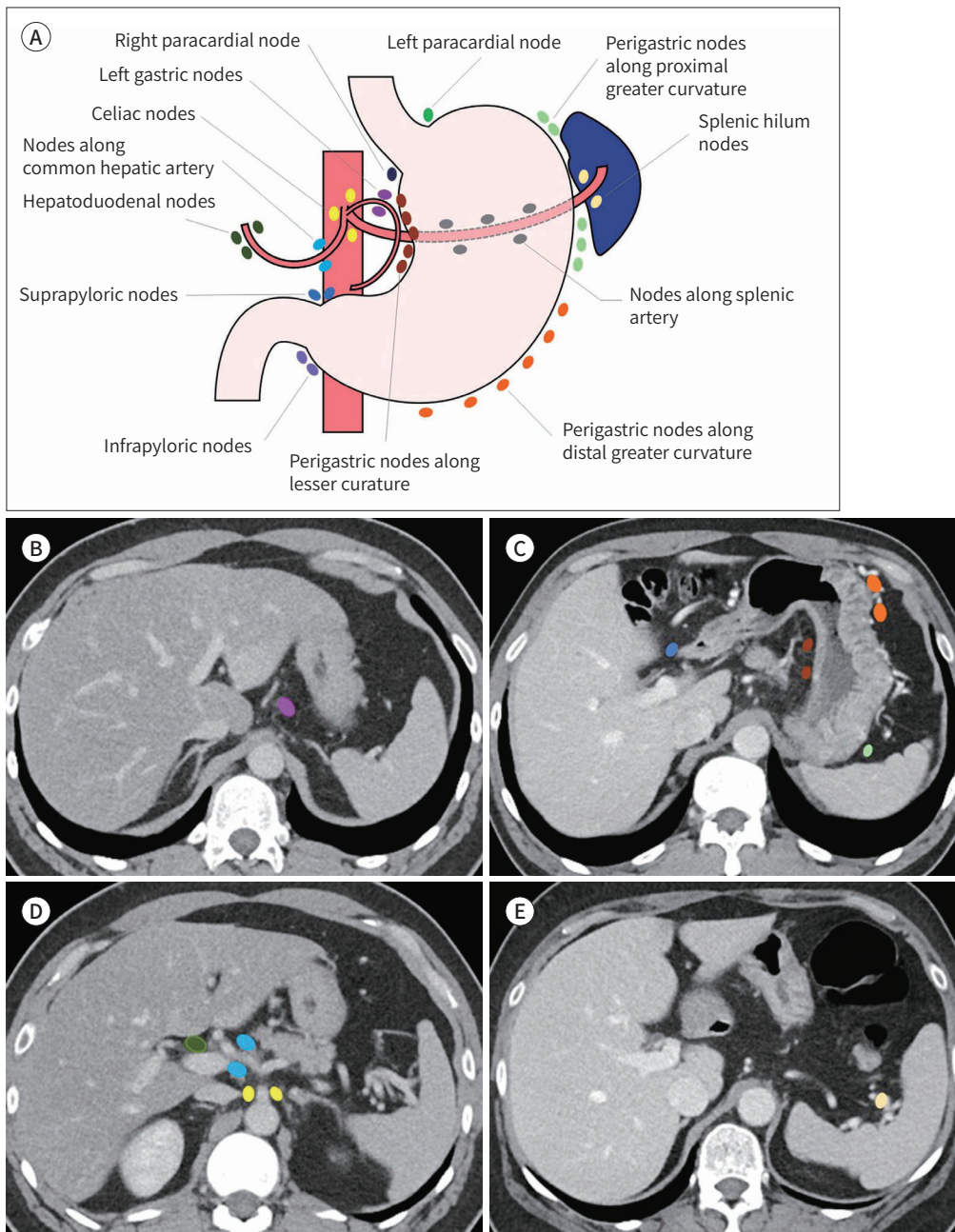
Invited to Pictorial Essay at 2021  
KCR Annual Meeting.

dicting prognosis of patients with malignant diseases (2-4). Based on the lymphatic drainage pathway from each organ, the site of occurrence of lymph node metastasis can be predicted. Moreover, the site with a high probability of lymph node metastasis can be predicted at follow-up after treatment. In addition, when the primary site of the tumor is unknown, it can be traced by the location and distribution of metastatic lymph nodes. Therefore, the identifi-

**Fig. 1.** Location and nomenclature of the lymph nodes around the stomach.

**A.** Schematic drawing of the lymph nodes located around the stomach.

**B-E.** Axial CT images show left gastric (purple), lesser curvature (dark red), greater curvature (orange), suprapyloric (blue), celiac (yellow), common hepatic artery (light blue), hepatoduodenal (dark green), and splenic hilar (light yellow) nodes.



cation of nodal stations and understanding the pathway of lymph node metastasis is critically important for patients with cancer.

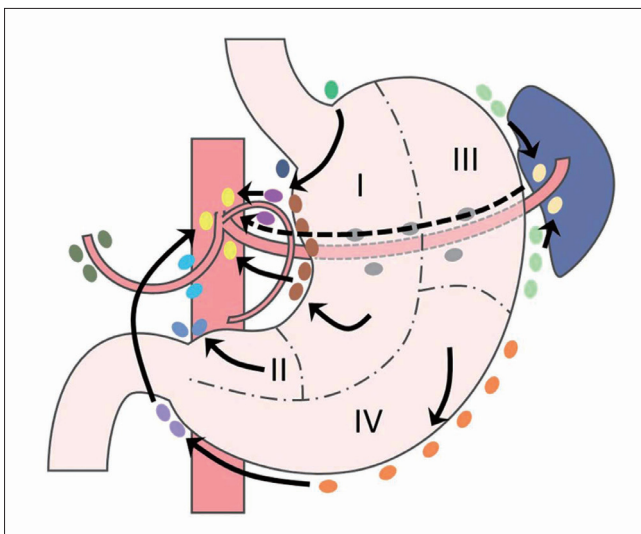
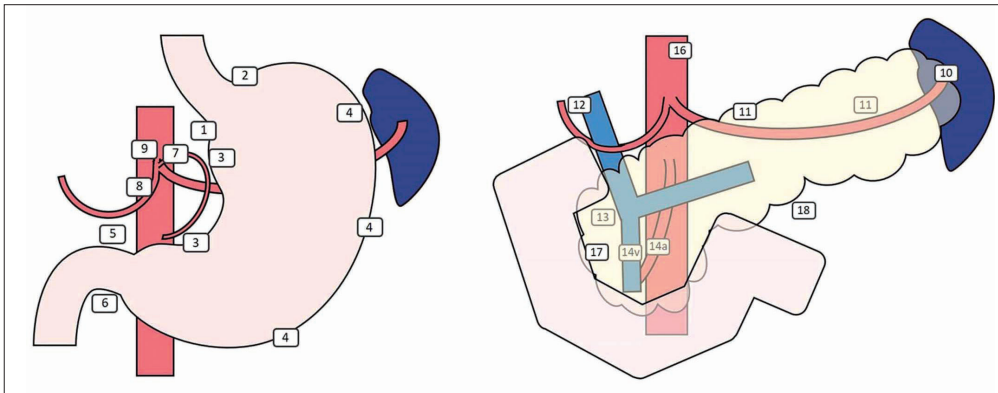
This pictorial review presents the nomenclatures and locations of abdominal lymph nodes on schematic pictures and color-coded CT images. In addition, the drainage pattern of the abdominal lymph nodes is presented schematically, and examples of lymph node metastases in cancers are shown as CT images. Our nomenclature of regional lymph nodes is based on the eighth edition of the American Joint Committee on Cancer (AJCC) staging manual (5).

## STOMACH

The nomenclature and location of lymph nodes around the stomach are shown in Fig. 1. The location and station numbers of the perigastric lymph nodes based on Japanese Classifi-

**Fig. 2.** Location and station numbers of the perigastric lymph nodes based on the Japanese Classification of Gastric Cancer.

1: right paracardial nodes, 2: left paracardial nodes, 3: lesser curvature nodes, 4: greater curvature nodes, 5: suprapyloric nodes, 6: infrapyloric nodes, 7: nodes along the left gastric artery, 8: nodes along the common hepatic artery, 9: celiac artery nodes, 10: splenic hilar nodes, 11: splenic artery nodes, 12: hepatoduodenal ligament nodes, 13: nodes on the posterior surface of the pancreatic head, 14a: nodes along the superior mesenteric artery, 14v: nodes along the superior mesenteric vein, 16: paraaortic nodes.



**Fig. 3.** Lymphatic drainage pathways for the stomach.

The lymph nodes of the stomach drain into other lymph nodes that are grouped into four zones: superior gastric (I), suprapyloric (II), pancreaticolinear (pancreaticosplenic, III), and inferior gastric (infrapyloric, IV). The arrows indicate the direction of lymph flow to the lymph nodes.

cation of Gastric Cancer (JCGC) are shown in Fig. 2 (6). The gastric lymph drains into four zones (Fig. 3). The lymph from the proximal portion of the stomach drains into the superior gastric nodes surrounding the left gastric artery, while the lymph from the distal portion of the lesser curvature drains into the suprapyloric nodes. The lymph from the body and fundus of the stomach drains along the left gastroepiploic and short gastric arteries to the pancreaticosplenic lymph nodes. The lymph along the right gastroepiploic vessels drains into the subpyloric nodes. Further, all lymph from the stomach eventually passes to the celiac nodes located around the root of the celiac artery (7).

The regional and non-regional lymph nodes for gastric cancer based on AJCC criteria and JCGC are listed in Table 1 (5, 6). Regional/non-regional lymph node metastasis is common and related to poor prognosis in gastric cancer (Fig. 4) (8).

## DUODENUM

The nomenclature and location of the lymph nodes around the duodenum are shown in Fig. 5. Drainage of lymph from the duodenum is divided into the anterior and posterior

**Table 1.** Gastric Cancer Lymph Node Groups

AJCC (8th Edition)	
Regional lymph nodes	Perigastric along the greater curvature (including greater curvature, greater omental), perigastric along the lesser curvature (including lesser curvature, lesser omental), right and left paracardial (cardioesophageal), suprapyloric (including gastroduodenal), infrapyloric (including gastroepiploic), left gastric artery, celiac artery, common hepatic artery, hepatoduodenal (along the proper hepatic artery, including portal), splenic artery, splenic hilum
Non-regional (distant) lymph nodes	Retropancreatic, pancreaticoduodenal, peripancreatic, superior mesenteric, middle colic, paraaortic, retroperitoneal
JCGC (3rd English Edition)	
Regional lymph nodes	Lymph node numbers 1–12 and 14v
Non-regional (distant) lymph nodes	Any other nodes

AJCC = American Joint Committee on Cancer, JCGC = Japanese Classification of Gastric Cancer, v = vein

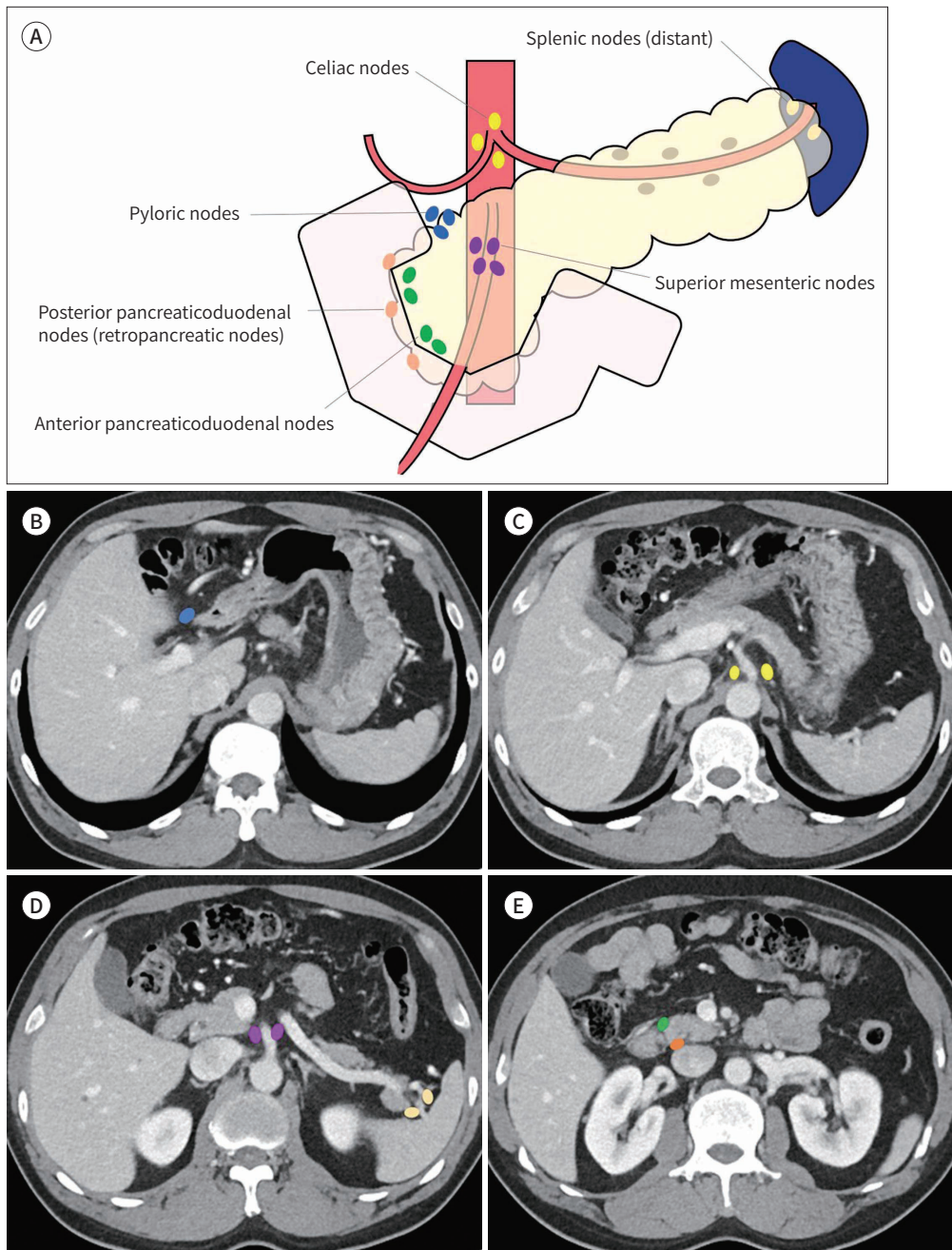


**Fig. 4.** A 59-year-old male with advanced gastric cancer at lesser curvature and metastatic lymph nodes. The coronal CT image shows enlarged and heterogeneously enhanced right paracardial lymph nodes (arrows).

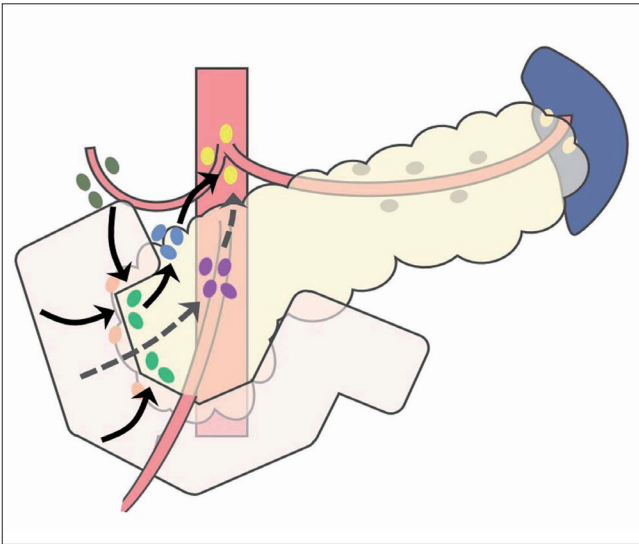
Fig. 5. Location and nomenclature of the lymph nodes around the duodenum.

A. Schematic drawing of the lymph nodes of duodenum.

B-E. Axial CT images show suprapyloric (blue), celiac (yellow), superior mesenteric (purple), splenic hilar (light yellow), anterior pancreaticoduodenal (green), and posterior pancreaticoduodenal (orange) nodes.

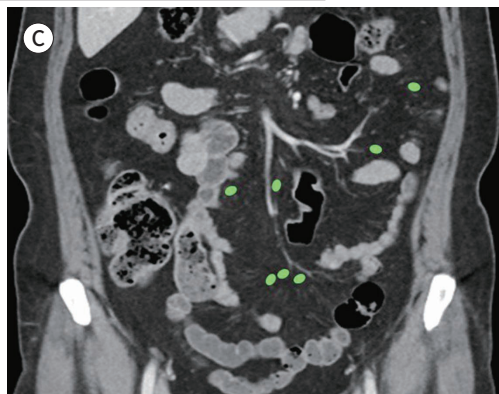
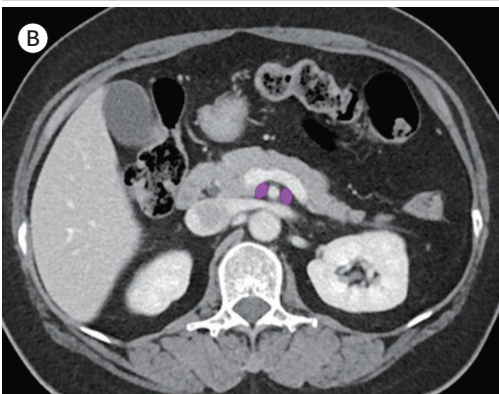
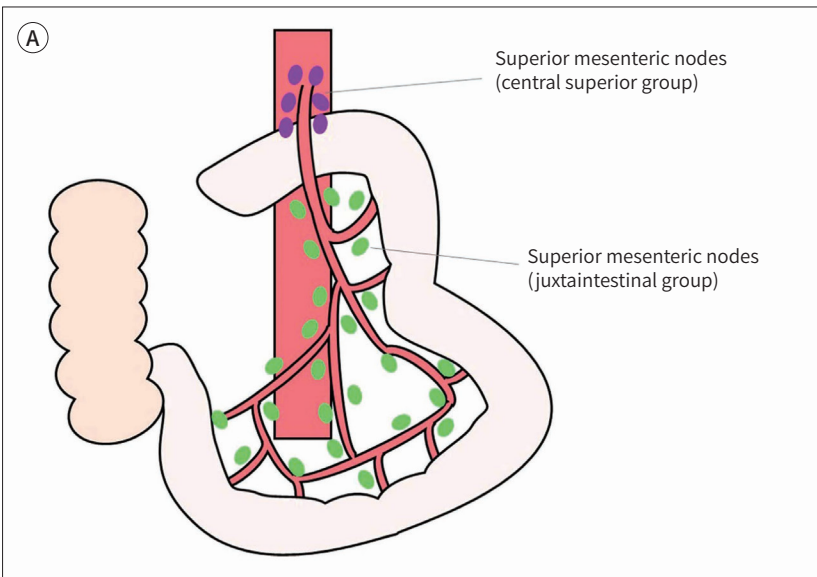


groups (Fig. 6). The anterior lymphatic group drains into the pancreaticoduodenal nodes located along the superior and inferior pancreaticoduodenal arteries and pyloric nodes located along the gastroduodenal artery. The posterior lymphatic group connects posteriorly to the head of the pancreas and drains into the superior mesenteric nodes. The efferent lymphatic vessels from the duodenum drain into the celiac nodes (6).



**Fig. 6.** Lymphatic drainage pathways for the duodenum. Lymphatic drainage of the duodenum is divided into the anterior and posterior groups. The arrows and dotted arrows indicate the direction of lymph flow in the anterior and posterior groups, respectively.

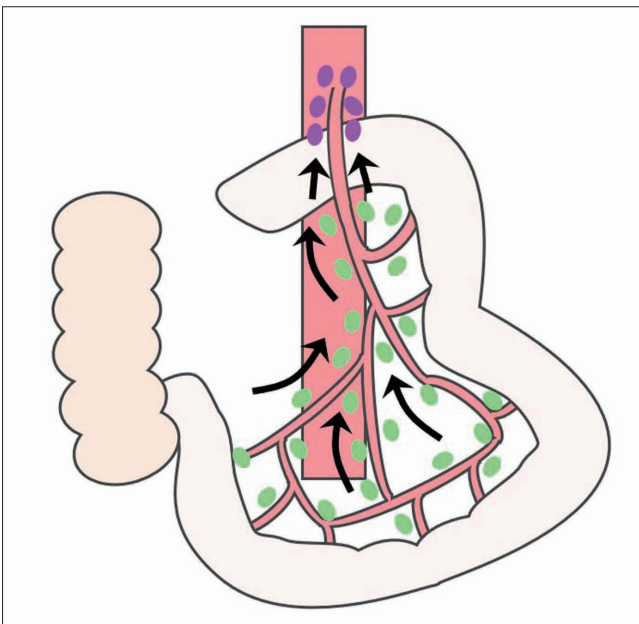
**Fig. 7.** Location and nomenclature of the mesenteric nodes of the jejunum and ileum. **A.** Schematic drawing of the lymph nodes of jejunum and ileum. **B, C.** Axial CT images show central superior group (purple) and juxtaintestinal group (green) of superior mesenteric nodes.



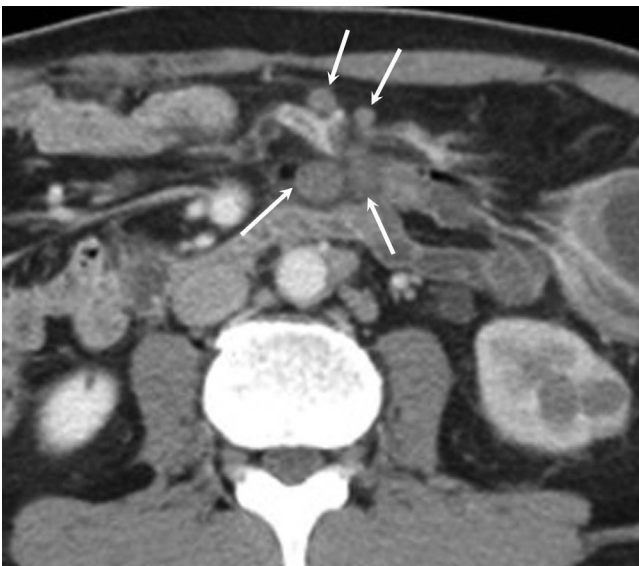
The regional lymph nodes for the non-ampullary duodenum are the retropancreatic, hepatic artery, inferior pancreaticoduodenal, and superior mesenteric nodes.

## JEJUNUM & ILEUM

Lymphatic plexuses located in the walls of the jejunum and ileum drain into the mesenteric nodes. Numerous mesenteric nodes are located along the arteries adjacent to the intestine and in the proximal part of superior mesenteric artery (Fig. 7) and drain to the superior mesenteric nodes (Fig. 8). The lymphatic vessels of the terminal ileum drain into the ileocolic nodes along the branches of the ileocolic artery (6).



**Fig. 8.** Lymphatic drainage pathways for the jejunum and ileum. The mesenteric nodes located near the small intestine and along the mesenteric artery drain into the superior mesenteric nodes. The arrows indicate the direction of lymph flow to the lymph nodes.

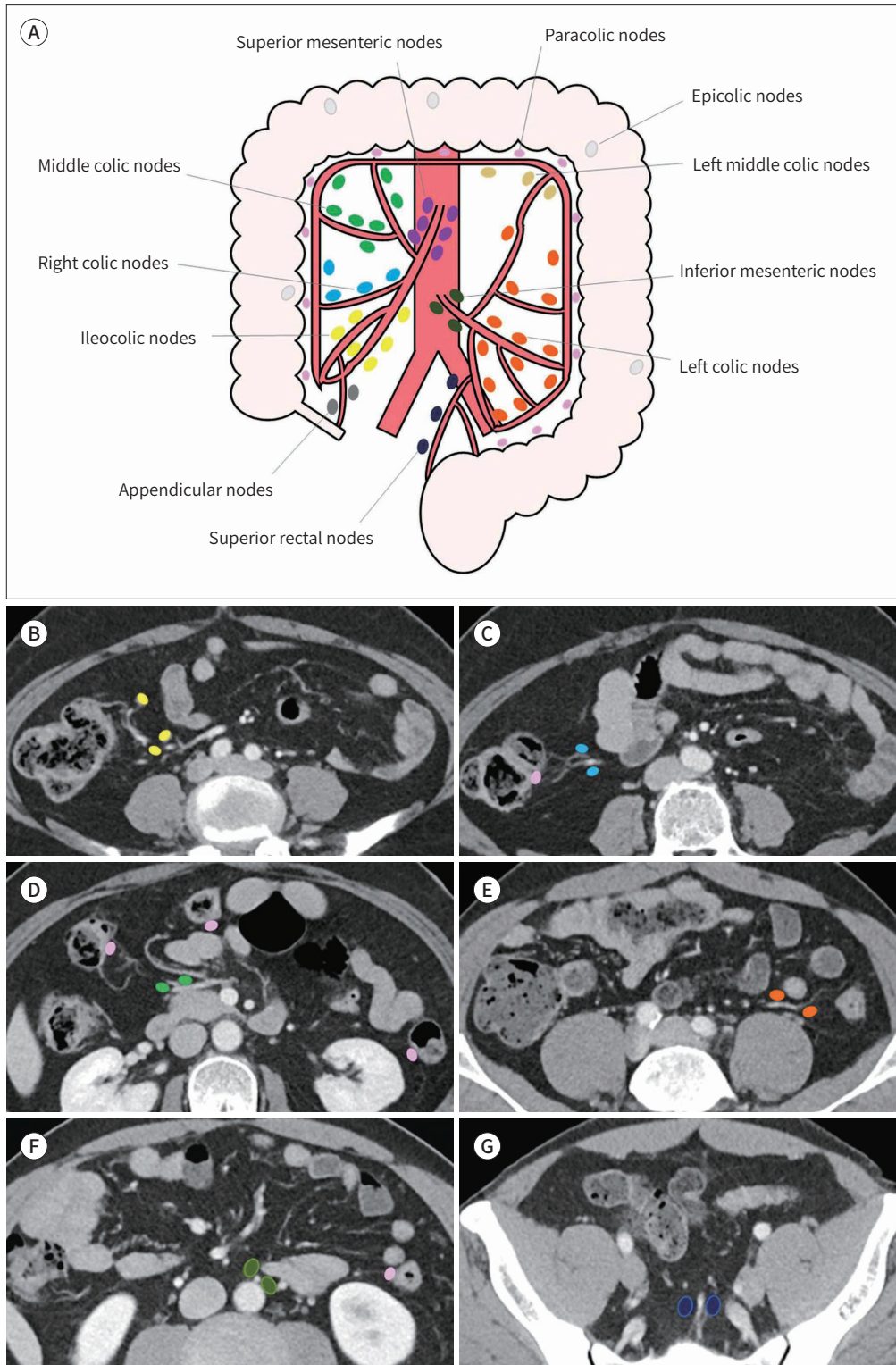


**Fig. 9.** A 58-year-old male with jejunal cancer and metastatic lymph nodes. Axial CT image shows multiple enlarged superior mesenteric lymph nodes (arrows).

**Fig. 10.** Location and nomenclature of the nodes of the appendix and colon.

**A.** Schematic drawing of the lymph nodes of the appendix and colon.

**B-G.** Axial CT images show ileocolic (yellow), right colic (light blue), pericolic (pink), middle colic (green), left colic (orange), inferior mesenteric (dark green), and superior rectal (dark blue) nodes.





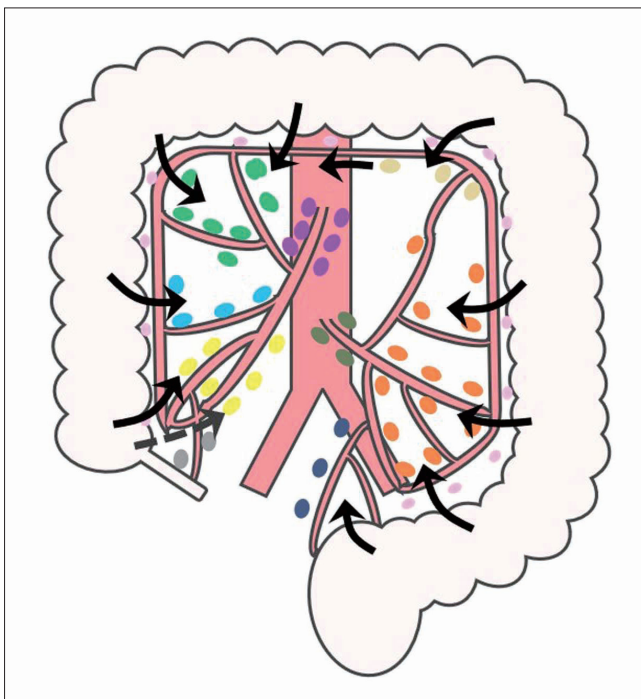
The regional lymph nodes for jejunal and ileal malignant tumors based on the AJCC criteria are the mesenteric and superior mesenteric nodes (Fig. 9). Additionally, the cecal and ileocolic nodes are the regional nodes for the terminal ileum (5).

## APPENDIX, COLON, RECTUM, AND ANUS

The location and nomenclature of lymph nodes of the appendix and colon are shown in Fig. 10. The lymph from all parts of the colon flows sequentially to the epicolic nodes located directly on the colon, paracolic (pericolic) nodes located along the mesenteric border, intermediate mesocolic nodes located along the colic arteries, and then to the superior or inferior mesenteric nodes (3, 6). The lymph from the appendix and cecum follows along the ileocolic vessels toward the root of the superior mesenteric nodes. In the ascending colon, the lymph drains through the nodes located along the ileocolic and right colic arteries to the superior mesenteric nodes. Lymphatic drainage of the transverse colon occurs through the middle colic nodes to the superior mesenteric nodes and that of the descending and sigmoid colon occurs through the left colic nodes to the inferior mesenteric nodes (Fig. 11) (9, 10).

The location and nomenclature of lymph nodes of the rectum and anus are shown in Fig. 12. The lymph from the superior half of the rectum ascends along the superior rectal vessels and then passes to the inferior mesenteric nodes. The lymph from the inferior half of the rectum and anus above the dentate line drains into the internal iliac nodes. The lymphatics from the anus below the dentate line drain into the superficial inguinal nodes, and then to the external iliac nodes (Fig. 13) (6, 9).

Regional nodal metastasis is one of the most common ways of tumor spread in colorectal cancer (Figs. 14, 15) (11). The regional lymph nodes for colorectal cancer based on AJCC cri-

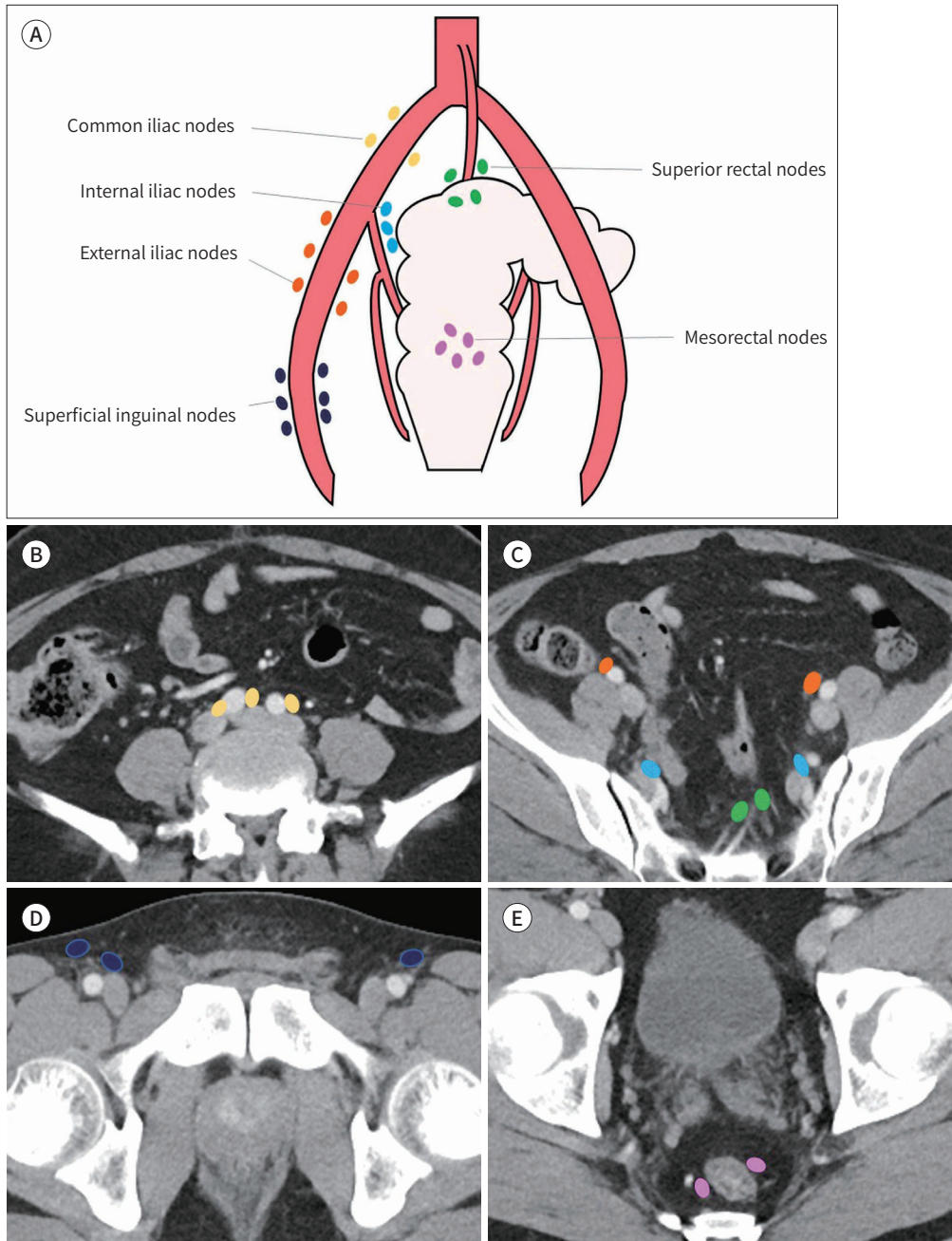


**Fig. 11.** Lymphatic drainage pathways for the appendix and colon. From all parts of the colon, the lymph flows sequentially to the epicolic and paracolic (pericolic) nodes located along the mesenteric border, mesocolic nodes located along the colic arteries, and superior and inferior mesenteric nodes. The arrows indicate the direction of lymph flow to the lymph nodes.

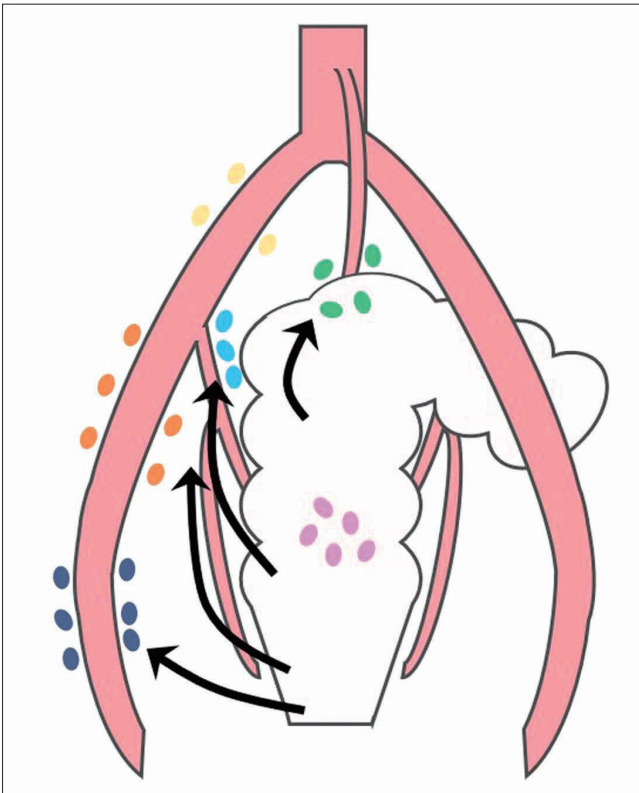
**Fig. 12.** Location and nomenclature of the nodes of the rectum and anus.

**A.** Schematic drawing of the lymph nodes of the rectum and anus.

**B-E.** Axial CT images show common iliac (light yellow), superior rectal (green), external iliac (orange), internal iliac (light blue), superficial inguinal (dark blue), and mesorectal (pink) nodes.



teria are listed in Table 2. The regional lymph nodes for anal cancer are the mesorectal, inguinal, superior rectal (hemorrhoidal), external iliac, and internal iliac (hypogastric) nodes (Fig. 16) (5).



**Fig. 13.** Lymphatic drainage pathways for the rectum and anus. The arrows indicate the direction of the lymph flow to the lymph nodes.



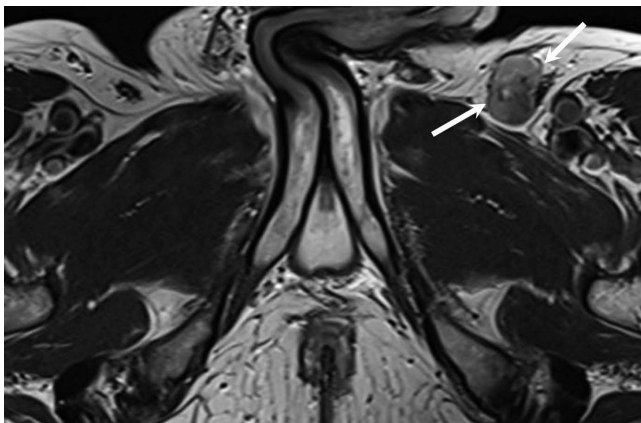
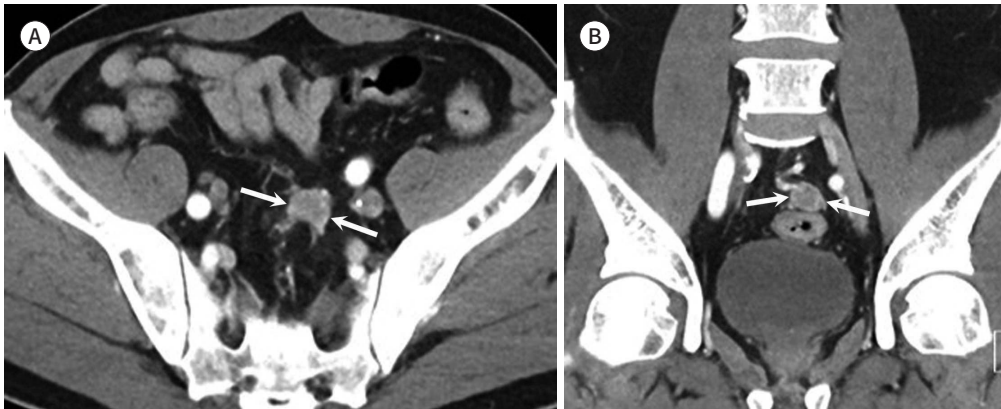
**Fig. 14.** A 69-year-old male with ascending colon cancer and metastatic lymph nodes. Axial CT image showing right colic nodes (arrows) located along the right colic artery (arrowhead).

## LIVER, GALLBLADDER, AND BILE DUCT

The location and nomenclature of the lymph nodes of the liver, gallbladder, and bile duct are shown in Fig. 17.

**Fig. 15.** A 73-year-old male with rectal cancer and metastatic lymph nodes.

**A, B.** Axial (**A**) and coronal (**B**) CT images showing the superior rectal nodes (arrows) near the superior rectal vessels.



**Fig. 16.** A 58-year-old male with rectal cancer involving the anus and metastatic lymph nodes  
Axial T2-weighted magnetic resonance image shows left superficial inguinal node metastasis (arrows).

**Table 2.** Regional Lymph Nodes for Colorectal Cancer (AJCC 8th Edition)

Segment	Regional Lymph Nodes
Cecum	Pericolic, ileocolic, right colic
Ascending colon	Pericolic, ileocolic, right colic, right branch of the middle colic
Hepatic flexure	Pericolic, ileocolic, right colic, middle colic
Transverse colon	Pericolic, middle colic
Splenic flexure	Pericolic, middle colic, left colic
Descending colon	Pericolic, left colic, sigmoid, inferior mesenteric
Sigmoid colon	Pericolic, sigmoid, superior rectal (hemorrhoidal), inferior mesenteric
Rectosigmoid	Pericolic, sigmoid, superior rectal (hemorrhoidal), inferior mesenteric
Rectum	Mesorectal, superior rectal (hemorrhoidal), inferior mesenteric, internal iliac, inferior rectal (hemorrhoidal)

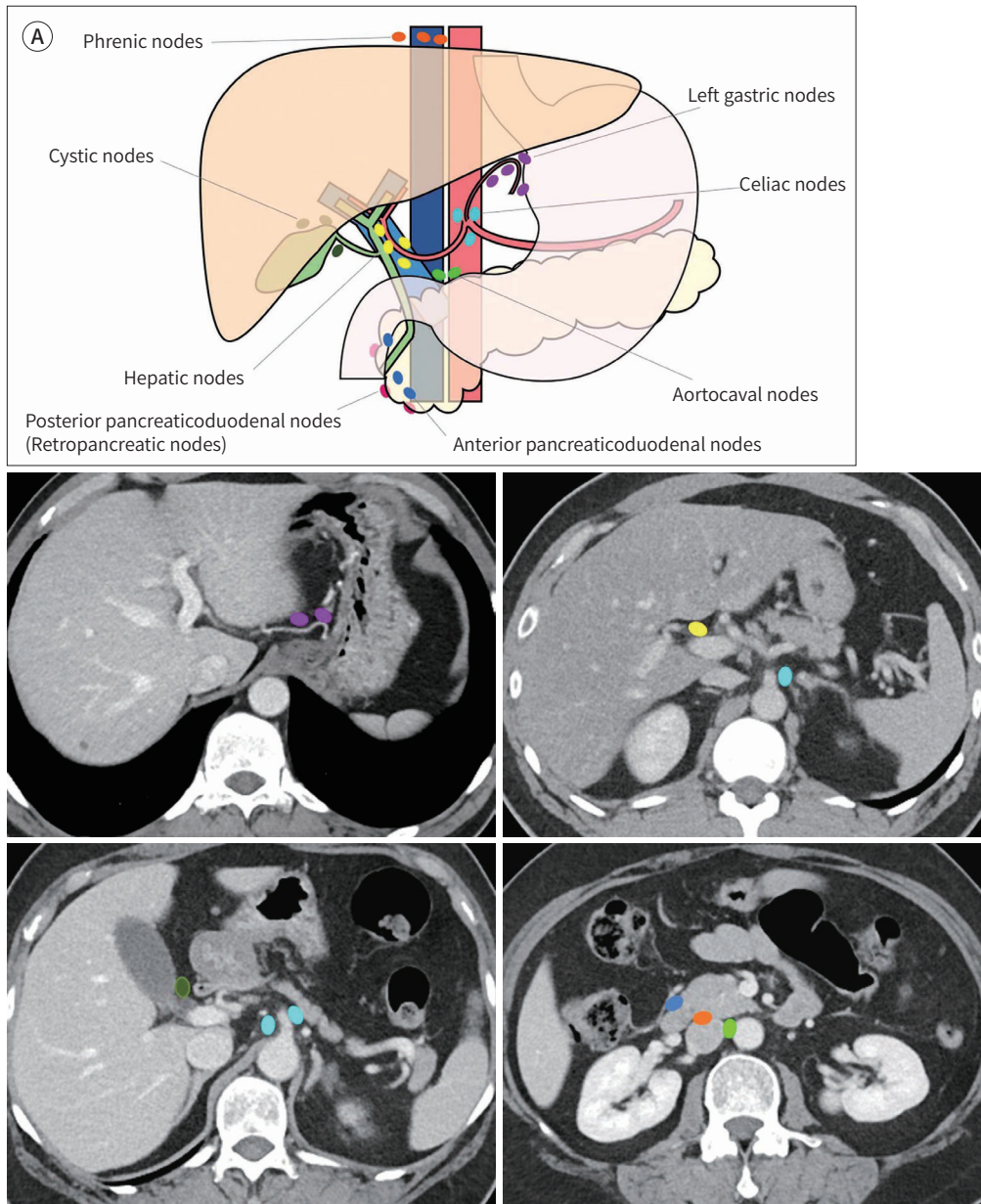
AJCC = American Joint Committee on Cancer

Lymphatic drainage of the liver is divided into two major pathways: superficial and deep (Fig. 18). Numerous superficial lymphatic networks are located under the capsule of the liver. From the anterior surface of the liver, the superficial lymphatic drainage either ascends toward the anterior diaphragmatic nodes or joins with the lymphatic networks of the inferior

**Fig. 17.** Location and nomenclature of liver, gallbladder, and bile duct nodes.

**A.** Schematic drawing of the lymph nodes of the liver, gallbladder, and bile duct.

**B-E.** Axial CT images show left gastric (purple), hepatic (yellow), celiac (light blue), cystic (dark green), anterior pancreaticoduodenal (blue), posterior pancreaticoduodenal (orange), and aortocaval (light green) nodes.



surface to drain into the hepatic hilar nodes. The lymph from the superior surface of the liver drains into the diaphragmatic nodes and from the posterior surface into the inferior phrenic and paraaortic nodes. The lymph from the inferior surface mostly drains into the hepatic hilar nodes and joins the lymphatic vessels located in the hepatoduodenal and gastrohepatic ligaments. Further, the nodes located in the gastrohepatic ligament drain into the left gastric nodes (3).

The deep networks located along the hepatic veins drain into the lymph nodes located

around the inferior vena cava above the diaphragm. The deep lymphatic networks follow the portal veins, drain into the lymph nodes at the hepatic hilum, and then into the nodes located in the hepatoduodenal ligament. The nodes located in the hepatoduodenal ligament can be separated into two major chains: the anterior periportal (hepatic artery) chain and posterior periportal (portocaval) chain. The anterior periportal chain begins at the hepatic artery nodes, follows the common hepatic artery to the celiac nodes, and drains into the cisterna chyli. The posterior periportal chain, which begins at the portocaval nodes, is located posteriorly to the portal vein in the hepatoduodenal ligament. This chain drains into the retropancreatic nodes and the aortocaval nodes before draining into the cisternal chyli (3).

Lymph node metastasis is rare in hepatocellular carcinoma, but is generally associated with poor prognosis (12). The regional lymph nodes for hepatocellular carcinoma based on the AJCC criteria are the hilar, hepatoduodenal ligament, inferior phrenic, and caval nodes. Among them, the hepatic artery and portal vein nodes are the most prominent. The regional lymph nodes of the left intrahepatic cholangiocarcinoma are the inferior phrenic and hilar (Fig. 19) and the regional lymph nodes of the right intrahepatic cholangiocarcinoma include the hilar, periduodenal, and peripancreatic nodes (Fig. 20).

Fig. 18. Lymphatic drainage pathways for the liver.

A, B. Superficial (A) and deep (B) lymphatic pathways in the liver. Arrows and dotted arrows indicate the direction of lymph flow to the lymph nodes.

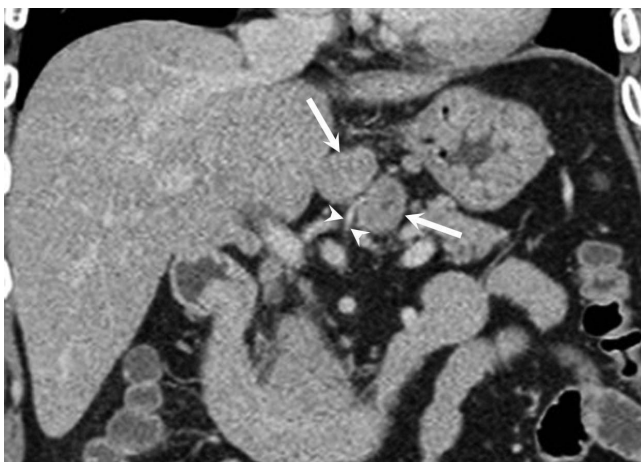
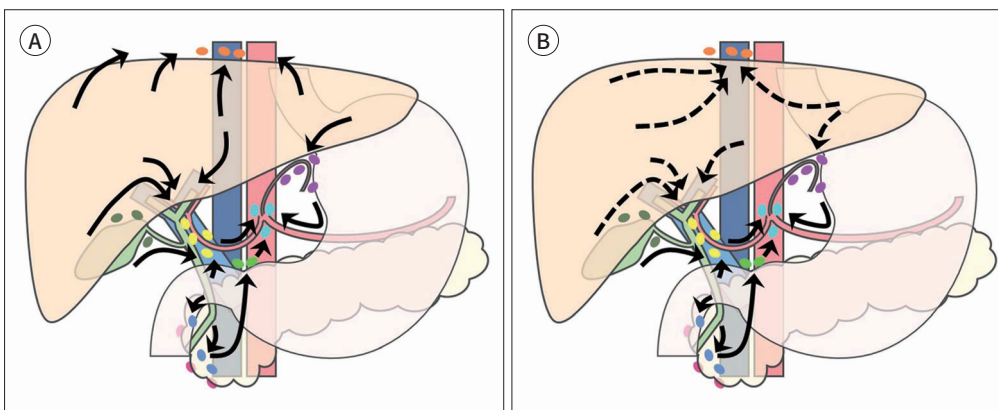
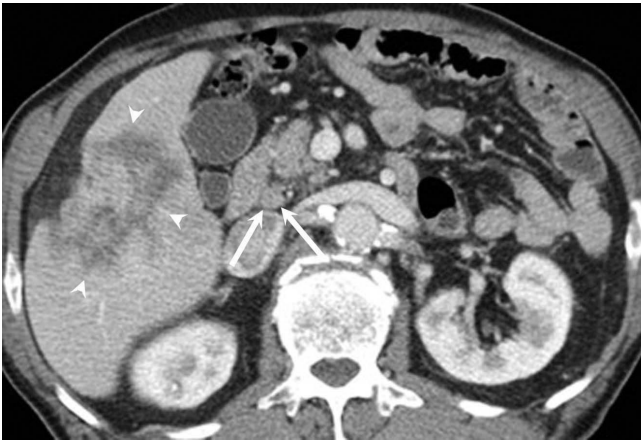


Fig. 19. A 58-year-old male with intrahepatic cholangiocarcinoma in segment 4 and metastatic lymph nodes. A coronal CT image showing metastatic left gastric nodes (arrows) located along the left gastric artery (arrowheads).



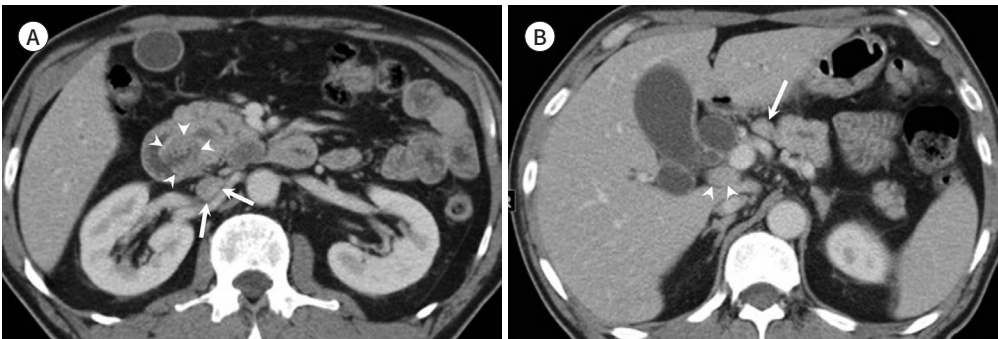
**Fig. 20.** A 68-year-old male with intrahepatic cholangiocarcinoma in the right hemiliver and metastatic lymph node.

An axial CT image showing intrahepatic cholangiocarcinoma (arrowheads) in the right hemiliver and metastatic retropancreatic node (arrows).

**Fig. 21.** A 54-year-old male with ampulla of Vater cancer and metastatic lymph nodes.

**A.** An axial CT image shows a hypodense mass (arrowheads) arising from the ampulla of Vater and an enlarged retropancreatic node (arrows).

**B.** Axial CT image also shows enlarged nodes located along the common hepatic artery (arrow) and portal vein (arrowheads).



The regional lymph nodes for perihilar cholangiocarcinoma are the hilar, cystic duct, choledochal, portal, hepatic arterial, and posterior pancreaticoduodenal nodes, whereas the nodes located in the hepatoduodenal ligament are non-regional lymph nodes. The regional nodes of the distal bile duct cancer are the pancreaticoduodenal nodes and nodes located along the common bile duct, hepatic artery, and right lateral wall of the superior mesenteric artery. The peripancreatic nodes and the nodes located along the hepatic artery and portal vein are regional nodes for the ampulla of Vater malignancy (Fig. 21).

In gallbladder cancer, the lymph nodes located along the common bile duct, hepatic artery, portal vein, and cystic duct are the regional lymph nodes.

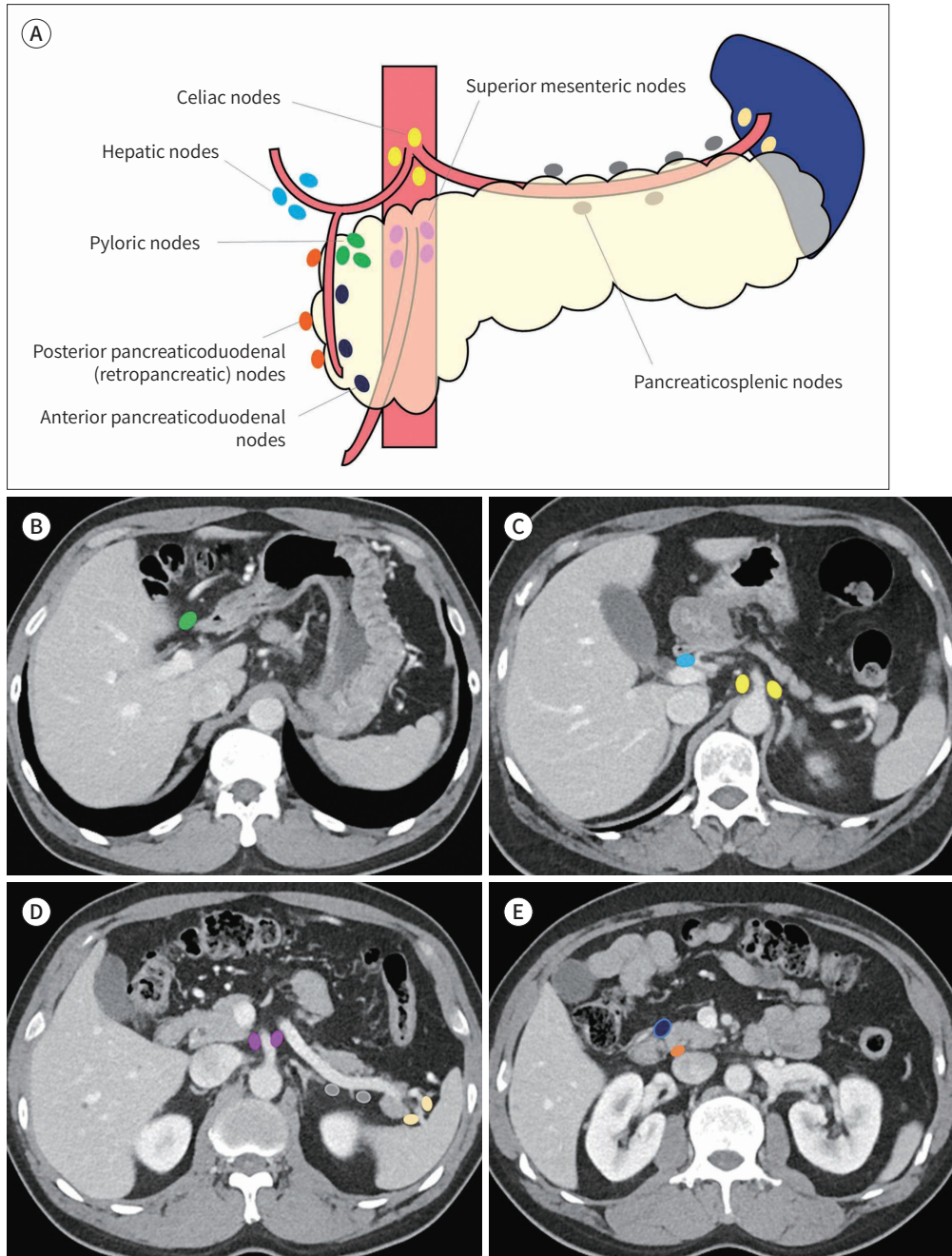
## EXOCRINE PANCREAS

The location and nomenclature of the lymph nodes of the pancreas are shown in Fig. 22. Lymphatic drainage of the head of the pancreas is different from that of the body and tail (2, 13). The lymphatic drainage pathway of the head of the pancreas is similar to that of the duodenum. The anterior and posterior pancreaticoduodenal nodes drain through the pyloric

**Fig. 22.** Location and nomenclature of the nodes of the pancreas.

**A.** Schematic drawing of the lymph nodes of the pancreas.

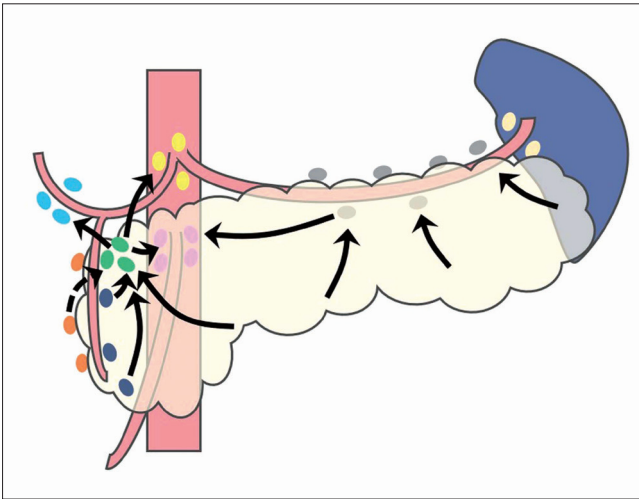
**B-E.** Axial CT images show suprapyloric (green), hepatic (light blue), celiac (yellow), superior mesenteric (purple), pancreaticosplenic (gray), splenic hilar (light yellow), anterior pancreaticoduodenal (dark blue), and posterior pancreaticoduodenal (orange) nodes.



nodes into the celiac, hepatic, and superior mesenteric nodes (6). The lymphatic drainage of the body and tail of the pancreas follows the dorsal pancreatic artery and the splenic artery and vein to the celiac node (Fig. 23).

The most common pancreatic cancer is the ductal adenocarcinoma (14). Lymph node me-



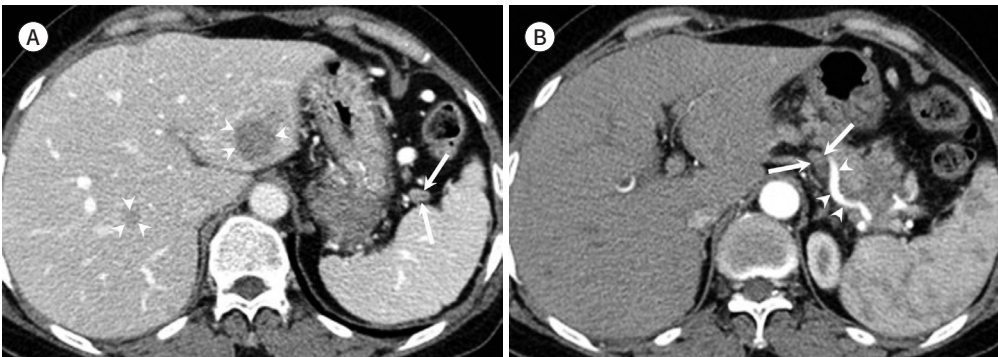


**Fig. 23.** Lymphatic drainage pathways for the pancreas. The lymphatic drainage of the head of the pancreas differs from that of the body and tail. Arrows and dotted arrow indicate the direction of lymph flow to the lymph nodes.

**Fig. 24.** A 66-year-old female with pancreatic tail cancer and metastatic lymph nodes.

**A.** Axial CT image shows a heterogeneously enhancing node (arrows) located at the splenic hilum and two metastatic nodules (arrowheads) located in the liver.

**B.** Axial CT image shows a small pancreaticosplenic node (arrows) located near the splenic artery (arrowheads).



tastases are common in pancreatic cancer because of rich lymphatic networks located around the pancreas and are associated with a poor prognosis (14, 15). The regional lymph nodes of the pancreas head and neck based on AJCC criteria include the pyloric nodes, pancreaticoduodenal nodes, as well as the nodes located along the common bile duct, common hepatic artery and portal vein, superior mesenteric vein, and right lateral wall of the superior mesenteric artery. For cancers of the body and tail of the pancreas, the splenic hilar nodes and those located along the common hepatic artery, celiac axis, and splenic artery are regional lymph nodes (Fig. 24) (5).

## CONCLUSION

Identifying nodal stations and understanding the pathway of lymph node metastasis is critically important for predicting the pathway of disease dissemination and diagnosing lymph node metastasis. This pictorial essay may be helpful for the daily practice of radiologists specializing in abdominal imaging.

### Author Contributions

Conceptualization, A.J.H.; data curation, all authors; investigation, all authors; project administration, A.J.H.; resources, all authors; supervision, A.J.H.; visualization, A.J.H.; writing—original draft, all authors; and writing—review & editing, A.J.H.

### Conflicts of Interest

The authors have no potential conflicts of interest to disclose.

### Funding

None

## REFERENCES

1. Parungo CP, Soybel DI, Colson YL, Kim SW, Ohnishi S, DeGrand AM, et al. Lymphatic drainage of the peritoneal space: a pattern dependent on bowel lymphatics. *Ann Surg Oncol* 2007;14:286-298
2. Mukesh G. Harisinghani. *Atlas of lymph node anatomy*. New York: Springer 2013
3. Meyers MA, Charnsangavej C, Oliphant M. *Meyers' dynamic radiology of the abdomen: normal and pathologic anatomy*. 6th ed. New York: Springer 2011
4. Morón FE, Szklaruk J. Learning the nodal stations in the abdomen. *Br J Radiol* 2007;80:841-848
5. Amin MB, Edge SB, Greene FL, Byrd DR, Brookland RK, Washington MK, et al. *AJCC Cancer Staging Manual*. 8th ed. New York: Springer 2016
6. Japanese Gastric Cancer Association. Japanese classification of gastric carcinoma: 3rd English edition. *Gastric Cancer* 2011;14:101-112
7. Moore KL, Dalley AF, Agur A. *Clinically oriented anatomy*. 7th ed. Philadelphia: Lippincott Williams & Wilkins 1999
8. Lu H, Zhao B, Huang R, Sun Y, Zhu Z, Xu H, et al. Central lymph node metastasis is predictive of survival in advanced gastric cancer patients treated with D2 lymphadenectomy. *BMC Gastroenterol* 2021;21:15
9. Granfield CA, Charnsangavej C, Dubrow RA, Varma DG, Curley SA, Whitley NO, et al. Regional lymph node metastases in carcinoma of the left side of the colon and rectum: CT demonstration. *AJR Am J Roentgenol* 1992;159:757-761
10. McDaniel KP, Charnsangavej C, DuBrow RA, Varma DG, Granfield CA, Curley SA. Pathways of nodal metastasis in carcinomas of the cecum, ascending colon, and transverse colon: CT demonstration. *AJR Am J Roentgenol* 1993;161:61-64
11. Jin M, Frankel WL. Lymph node metastasis in colorectal cancer. *Surg Oncol Clin N Am* 2018;27:401-412
12. Kobayashi S, Takahashi S, Kato Y, Gotohda N, Nakagohri T, Konishi M, et al. Surgical treatment of lymph node metastases from hepatocellular carcinoma. *J Hepatobiliary Pancreat Sci* 2011;18:559-566
13. Kayahara M, Nakagawara H, Kitagawa H, Ohta T. The nature of neural invasion by pancreatic cancer. *Pancreas* 2007;35:218-223
14. Elshaer M, Gravante G, Kosmin M, Riaz A, Al-Bahrani A. A systematic review of the prognostic value of lymph node ratio, number of positive nodes and total nodes examined in pancreatic ductal adenocarcinoma. *Ann R Coll Surg Engl* 2017;99:101-106
15. Berger AC, Watson JC, Ross EA, Hoffman JP. The metastatic/examined lymph node ratio is an important prognostic factor after pancreaticoduodenectomy for pancreatic adenocarcinoma. *Am Surg* 2004;70:235-240; discussion 240

## 복부 림프절의 명명법 및 림프 배액 패턴

조현석 · 안지현\*

림프계는 염증 및 악성 세포의 확산 경로를 제공한다. 종양이 확산되는 림프절의 위치와 림프 배액 경로를 인지하는 것은 종양의 병기 결정, 치료 방법 선택 및 환자의 예후 예측에 중요하다. 복강 내 악성 종양에서 림프절 전이는 흔하기 때문에 림프절 전이를 발견하고 질병의 확산 방식을 이해하는 것은 영상학과 의사에게 필수적이다. 이 임상화보에서는 도식적인 그림들과 림프절을 색으로 표시한 CT 영상을 사용하여, 상부 및 하부 위장관, 간, 담낭, 담관 및 췌장의 림프절 위치와 이름, 그리고 림프 배수 경로에 관해 기술하였다. 또한 각 장기에서 발생하는 악성 종양의 국소 림프절의 종류에 대해 기술하고 몇몇 증례의 영상을 제시하였다.

연세대학교 원주의과대학 원주세브란스기독병원 영상학과