

発表者氏名	論文タイトル名	発表誌名	巻号	ページ	出版年
International Consensus Group for Hepatocellular Neoplasia The International Consensus Group for Hepatocellular Neoplasia Kojiro M, Wanless IR, Alves V, Badve S, Balabaud C, Bedosa P, Bhathal P, Bioulac-Sage P, Brunt EM, Burt AD, Craig JR, Dhillon A, Ferrell L, Geller SA, Goodman ZZD, Gouw AS, Guido M, Guindi M, Hytioglou P, Kage M, Kondo F, Kudo M, Lauwers GY, Nakano M, Paradis V, Park YN, Ougalia A, Roncalli M, Roskams T, Ruebner B, Sakamoto M, Saxena R, Theise ND, Thumg S, Taniakos D. Lauwers GY, Nakano M, Paradis V, Park YN, Ougalia A, Roncalli M, Roskams T, Ruebner B, Sakamoto M, Saxena R, Theise ND, Thumg S, Taniakos D.	PathologicDiagnosis of Early Hepatocellular Carcinoma:A Report of the International Consensus Group for Hepatocellular Neoplasia.	Hepatology	49(2)	658-664	2009
<u>松谷 正一</u>	門脈圧亢進症と側副血行路	超音波医学	36:	319-327	2009
Huet PM, Vincent C, Deslauriers J, Cote J, Fenyves D, <u>Matsutani S</u> , Boileau R, Kerckvoorde JH	Portal hypertension in primary biliary cirrhosis (PBC): A reversible condition? Yes, but not in all UDCA treated patients	Hepatology Research	39	1032-1038	2009
Okugawa H, Maruyama H, Kobayshi S, Yoshizumi H, <u>Matsutani S</u> , Yokosuka O	Therapeutic effect of balloon-occluded retrograde transvenous obliteration for gastric varices in relation to haemodynamics in the short gastric vein	British Journal of Radiology	82	930-935	2009
Hidaka M, Eguchi S, Okudaira S, Takatsuki M, Tokai H, Soyama A, Nagayoshi S, Mochizuki S, Hamasaki K, Tajima Y, <u>Kanematsu T</u>	Multicentric occurrence and spread of hepatocellular carcinoma in whole explanted end-stage liver.	Hepatology Research	39巻2号	143-148	2009

発表者氏名	論文タイトル名	発表誌名	巻号	ページ	出版年
Eguchi S, <u>Kanematsu T</u>	What is the real contribution of extrahepatic cells to liver regeneration?	Surgery Today	39巻1号	1-4	2009
Kobayashi K, Fujioka H, Kamohara Y, Okudaira S, Yanaga K, Furui J, <u>Kanematsu T</u>	Underlying Histological Activity of Hepatitis Plays an Important Role for Tumor Recurrence After Curative Resection of Hepatocellular Carcinoma.	Acta Medica Nagasakiensia	53巻4号	97-107	2009
Eguchi S, Takatsuki M, Yamanouchi K, Hidaka M, Soyama A, Tomonaga T, Tajima Y, <u>Kanematsu T</u>	Indocyanine Green Dye Excretion Bile Reflects Graft Function After Living Donor Liver Transplantation.	Transplantation	88巻	747-748	2009
Ichikawa T, Nakao K, Miyaaki H, Eguchi S, Takatsuki M, Fujimoto M, Akiyama M, Miura S, Ozawa E, Shibata H, Takeshita S, <u>Kanematsu T</u> , Eguchi K	Hepatitis C virus kinetics during the first phase of pegylated interferon- α -2b with ribavirin therapy in patients with living donor liver transplantation.	Hepatology Research	39巻	856-864	2009
Eguchi S, Hidaka M, Tomonaga T, Miyazaki K, Inokuma T, Takatsuki M, Okudaira S, Yamanouchi K, Miyaaki H, Ichikawa T, Tajima Y, <u>Kanematsu T</u>	Actual therapeutic efficacy of pre-transplant treatment on hepatocellular carcinoma and its impact on survival after salvage living donor liver transplantation.	Journal of Gastroenterology	44巻	624-629	2009
Tokai H, Kawashita Y, Ito Y, Yamanouchi K, Takatsuki M, Eguchi S, Tajima Y, <u>Kanematsu T</u>	Efficacy and limitation of bone marrow transplantation in the treatment of acute and subacute liver failure in rats.	Hepatology Research	39巻	1137-1143	2009
Eguchi S, Takatsuki M, Nakashima M, <u>Kanematsu T</u>	Living -donor liver transplantation from second generation children for atomic bomb survivors	Hepatology Research	39巻	1150-1152	2009
Hamada T, Eguchi S, Takatsuki M, Yamanouchi K, Sugiyama N, Kawashita Y, Okudaira S, Tajima Y, Ishii T, <u>Kanematsu T</u>	Low-dose recombinant human hepatocyte growth factor enhances effect of hepatocyte transplantation in rats treated with retrorsine.	Hepato-gastroenterology	56巻	1466-1470	2009
<u>Yoshida H</u> , Mamada Y, Tani ai N, Hirakata A, Kawano Y, Kakinuma D, Mineta S, Tajiri T.	Simultaneous evaluation of portal hemodynamics and liver function by scintiphotosplenoportography in pediatric recipients of living-donor liver transplants	Hepato-Gastroenterology	56	819-23	2009
Takahashi T, <u>Yoshida H</u> , Mamada Y, Tani ai N, Tajiri T.	Balloon-occluded retrograde transvenous obliteration for gastric varices in child with extrahepatic portal venous obstruction	J Nippon Med Sch	76	173-8	2009

発表者氏名	論文タイトル名	発表誌名	巻号	ページ	出版年
Kawahigashi Y, Mishima T, Mizuguchi Y, Arima Y, Yokomuro S, Shimizu T, Kanda T, Takizawa T, Luo SS, Ishibashi O, <u>Yoshida H</u> , Tajiri T, Takizawa T.	MicroRNA profiling of human intrahepatic cholangiocarcinoma cell lines reveals biliary epithelial cell-specific microRNAs	J Nippon Med Sch	76	188-97	2009
<u>Yoshida H</u> , Mamada Y, Taniai N, Bando K, Mineta S, Kawano Y, Kakinuma D, Kanda T, Tajiri T.	Interactions between anti-ulcer drugs and non-steroidal anti-inflammatory drugs in cirrhotic patients with bleeding esophagogastric varices	Hepato-Gastroenterology	56	1366-70	2009
<u>Yoshida H</u> , Mamada Y, Taniai N, Tajiri T.	New trends in surgical treatment for portal hypertension	Hepatology Reserch	39	1044-51	2009
<u>Yoshida H</u> , Mamada Y, Taniai N, Hirakata A, Kawano Y, Kakinuma D, Mineta S, Tajiri T.	Simultaneous evaluation of portal hemodynamics and liver function by scintiphotosplenoportography in pediatric recipients of living-donor liver transplants.	Hepato-Gastroenterology	56	819-23	2009
<u>Yoshida H</u> , Mamada Y, Taniai N, Bando K, Mineta S, Kawano Y, Kakinuma D, Kanda T, Tajiri T.	Interactions between anti-ulcer drugs and non-steroidal anti-inflammatory drugs in cirrhotic patients with bleeding esophagogastric varices.	Hepato-Gastroenterology	56	1366-70	2009
<u>Yoshida H</u> , Mamada Y, Taniai N, Tajiri T.	New trends in surgical treatment for portal hypertension.	Hepatology Reserch	39	1044-51	2009
Liu GJ, Wang W, Xie XY, Xu HX, Xu ZF, Zheng YL, Liang JY, <u>Moriyasu F</u> , Lu MD	Real-time contrast-enhanced ultrasound imaging of focal liver lesions in fatty liver.	Clin Imaging	34 (3)	211-221	2010
Watanabe S*, Enomoto N*, Koike K*, Izumi N*, Takikawa H*, Hashimoto E*, <u>Moriyasu F</u> , Kumada H*, Imawari M*; PERFECT Study Group	Prolonged treatment with pegylated interferon alpha 2b plus ribavirin improves sustained virological response in chronic hepatitis C genotype 1 patients with late response in a clinical real-life setting in Japan.	Hepatol Res	40 (2)	135-144	2010
Liu GJ, <u>Moriyasu F</u> , Hirokawa T, Rexiati M, Yamada M, Imai Y	Expression of heat shock protein 70 in rabbit liver after contrast-enhanced ultrasound and radiofrequency ablation.	Ultrasound Med Biol	36 (1)	78-85	2010

発表者氏名	論文タイトル名	発表誌名	巻号	ページ	出版年
Saito K, Araki Y, Park J, Metoki R, Katsuyama H, Nishio R, Kakizaki D, <u>Moriyasu F</u> , Tokuyue K	Effect of Gd-EOB-DTPA on T2-weighted and diffusion-weighted images for the diagnosis of hepatocellular carcinoma.	J Magn Reson Imaging	32 (1)	229-234	2010
Sugimoto K, Shiraishi J*, <u>Moriyasu F</u> , Ichimura S, Metoki R, Doi K*	Analysis of intrahepatic vascular morphological changes of chronic liver disease for assessment of liver fibrosis stages by micro-flow imaging with contrast-enhanced ultrasound: preliminary experience.	Eur Radiol	20 (11)	2749-2757	2010
Kihara T*, Obata H*, <u>Moriyasu F</u> , Hata J*, Mine Y*	Registration of 4D Ultrasound Images and its Applications.	MEDICAL IMAGING TECHNOLOGY	28 (5)	328-337	2010
Sugimoto k, Shiraishi J, <u>Moriyasu F</u> , Doi K.	Computer-aided diagnosis for contrast-enhanced ultrasound in the liver.	World Journal of Radiology	2 (6)	215-223	2010
嶺 喜隆、木原朝彦、小畑秀明、山田昌彦、森安史典	ラジオ波焼灼治療での4D超音波画像の逐次的位置合わせ	MEDICAL IMAGING TECHNOLOGY	28 (1)	31-41	2010
杉本勝俊、白石順二、 <u>森安史典</u> 、市村茂輝、目時 亮、土井邦雄	非侵襲的肝病態評価法の進歩：慢性肝炎における肝内脈管の形態変化 ソナゾイド造影超音波 MFIによる解析	消化器内科	50 (5)	426-434	2010
今井康晴、佐野隆友、村嶋英学、宮田祐樹、市村茂輝、平良淳一、杉本勝俊、山田幸太、古市好宏、山田昌彦、中村郁夫、 <u>森安史典</u>	超音波検査の更なる飛躍：肝腫瘍におけるソナゾイド造影超音波検査の工夫 肝腫瘍性病変に対する Sonazoid 造影超音波検査の問題点と工夫	Rad Fan	8 (5)	81-82	2010
山田昌彦、 <u>森安史典</u>	肝の 3D・4D 画像診断の臨床動向 4D-US の有用性を中心に	INNERVISION	25 (5)	35-37	2010
杉本勝俊、 <u>森安史典</u>	臨床的有用性を実証する：肝臓造影超音波におけるコンピュータ支援診断 (CAD)	月刊 新医療	5月号	112-115	2010
杉本勝俊、本定三季、佐野隆友、宮田祐樹、市村茂輝、村嶋英学、平良淳一、山田幸太、古市好宏、山田昌彦、今井康晴、中村郁夫、 <u>森安史典</u>	超音波検査の更なる飛躍：肝腫瘍におけるソナゾイド造影超音波検査の工夫 ソラフェニブ治療による肝癌の血流変化 造影 US による早期効果予測の可能性	Rad Fan	8(5)	49-51	2010

発表者氏名	論文タイトル名	発表誌名	巻号	ページ	出版年
河合 隆、羽山弥毅、 福澤麻理、山岸哲也、 柳沢京介、山本 圭、 八木健二、福澤誠克、 片岡幹統、川上浩平、 酒井義浩、森安史典、 高木 融、青木達哉	もう一步進んだ経鼻内 視鏡: 経鼻内視鏡の食 道機能検査への応用 一次蠕動および二次蠕 動の測定の試み	消化器内視鏡	22 (5)	835-840	2010
河合 隆、山本 圭、 福澤麻理、酒井義浩、 森安史典	内視鏡・内視鏡外科治 療最前線 低侵襲治療 の進歩: 内視鏡・内視鏡 外科診療技術の開発と 進歩 細径経鼻内視鏡	日本臨床	68 (7)	1264-1267	2010
森安史典	超音波 "Innovation" 診 断から治療までの最新 動向 コントラスト・ 3D・HIFU	INNERVISION	25 (8)	88-90	2010
田上和夫、橋爪 誠	縫合・吻合法の実際 -血管縫合・吻合法の 実際- 静脈縫合-門脈吻合-	外科治療 増刊「マスタ ーしておきたい縫合・吻合 の実際 より安全・確実に 行うために」	102	278-281	2010
Omori S, Ishizaki Y, Sugo H, Yoshimoto J, Imamura H, Yamataka A, Kawasaki S	Direct measurement of hepatic blood flow during living donor liver transplantation in children.	Journal of Pediatric Surgery	45	545-8	2010
Nomura R, Ishizaki Y, Sugo H, Yoshimoto J, Imamura H, Kawasaki S	Late-onset venous outflow obstruction treated by placement of a Foley balloon catheter in living donor liver transplantation using a left lobe.	Clinical Transpl	24	723-5	2010
川崎誠治、石崎陽一	臨床医学の展望 肝胆膵外科	日本医事新報 (in press)			2011
石崎陽一、川崎誠治	肝移植の現況と再生医 療への展望	再生医療	9	43-52	2010
太田正之、江口英利、 甲斐成一郎、平下禎二郎、 北野正剛	食道・胃静脈瘤に対す る内視鏡的治療	外科	72 (1)	18-23	2010
江口英利、太田正之、 衛藤 剛、平下禎二郎、 白石憲男、北野正剛	特集「危ない静脈瘤出血」 胃癌合併症例	消化器内視鏡	22 (10)	1813-1818	2010
Kawanaka H, Akahoshi T, Kinjo N, Konishi K, Yoshida D, Anegawa G, Yamaguchi S, Uehara H, Hashimoto N, Tsutsumi N, Tomikawa M, Maehara Y.	Impact of antithrombin III concentrates on portal vein thrombosis after splenectomy in patients with liver cirrhosis and hypersplenism.	Ann Surg.	251	76-83	2010

発表者氏名	論文タイトル名	発表誌名	巻号	ページ	出版年
Kinjo N, Kawanaka H, Akahoshi T, Tomikawa M, Yamashita N, Konishi K, Tanoue K, Shirabe K, Hashizume M, Maehara Y.	Risk factors for portal venous thrombosis after splenectomy in patients with cirrhosis and portal hypertension.	British Journal of Surgery	97 (6)	910-916	2010
Kawanaka H, Akahoshi T, Kinjo N, Konishi K, Yoshida D, Anegawa G, Yamaguchi S, Uehara H, Hashimoto N, Tsutsumi N, Tomikawa M, Maehara Y.	Impact of antithrombin III concentrates on portal vein thrombosis after splenectomy in patients with liver cirrhosis and hypersplenism.	Annals of Surgery	251 (1)	76-83	2010
Hashimoto N, Akahoshi T, Yoshida D, Kinjo N, Konishi K, Uehara H, Nagao Y, Kawanaka H, Tomikawa M, Maehara Y.	The efficacy of balloon-occluded retrograde transvenous obliteration on small intestinal variceal bleeding.	Surgery	148 (1)	145-150	2010
Tamori A, Enomoto M, Kobayashi S, Iwai S, Morikawa H, Sakaguchi H, Habu D, Shiomi S, Imanishi Y, Kawada N	Add-on combination therapy with adefovir dipivoxil induces renal impairment in patients with lamivudine-refractory hepatitis B virus.	J Viral Hepat	17 (1)	123-129	2010
Enomoto M, Mori M, Ogawa T, Fujii H, Kobayashi S, Iwai S, Morikawa H, Tamori A, Sakaguchi H, Sawada A, Takeda S, Habu D, Shiomi S, Kawada N	Usefulness of transient elastography for assessment of liver fibrosis in chronic hepatitis B: regression of liver stiffness during entecavir therapy.	Hepatology Res	40 (9)	853-861	2010
榎本 大、根来伸夫、藤井英樹、小林佐和子、岩井秀司、森川浩安、田守昭博、坂口浩樹、羽生大記、塩見 進、河田則文	HBV 関連クリオグロブリン血症における抗ホスファチジルセリン・プロトンピン複合体抗体の意義	肝臓	51 (8)	454-456	2010
塩見 進、川村悦史、東山滋明、河邊讓治	肝胆膵悪性腫瘍におけるPETの役割	映像情報	42 (3)	283-286	2010
森川浩安、塩見 進	血液/肝組織を用いた新たな門脈血行異常症の解析	肝胆膵	61 (8)	161-165	2010
塩見 進、河邊讓治	消化器悪性腫瘍におけるFDG-PETの有用性 (消化管・肝胆膵)	Pharma Medica	28 (10)	317-321	2010
小嶋哲人	注射・経口抗凝固薬 (特集・血栓症)	最新医学	65 (6)	1189-1194	2010
小嶋哲人	凝固制御因子	International Review of Thrombosis	5 (2)	86-90	2010
小嶋哲人	門脈血行異常症と血液凝固関連遺伝子	肝胆膵	61 (2)	167-173	2010
小嶋哲人	Q42 ヘパリン類似物質	救急・集中治療	22 (11,12)	1603-1608	2010
小嶋哲人	経口抗Xa薬と経口抗ロロンビン薬	Heart View	14 (2)	271-274	2010

発表者氏名	論文タイトル名	発表誌名	巻号	ページ	出版年
Suzuki A, Sanda N, Miyawaki Y, Fujimori Y, Yamada T, Takagi A, Murate T, Saito H, <u>Kojima T</u> .	Down-regulation of <i>PROS1</i> gene expression by 17 β -estradiol via estrogen receptor(ER α)-Sp1 interaction recruiting receptor-interacting protein140 and the corepressor-HDAC3 complex.	J Biol Chem.	285 (18)	13444-13453	2010
Okada H, Kunishima S, Hamaguchi M, Takagi A, Yamamoto K, Takamatsu J, Matsushita T, Saito H, <u>Kojima T</u> , Yamazaki T.	A novel splice site mutation in intron C of <i>PROS1</i> leads to markedly reduced mutant mRNA level, absence of thrombin-sensitive region, and impaired secretion and cofactor activity of mutant protein S.	Thromb Res.	125 (5)	e246-250	2010
Okada H, Toyoda Y, Takagi A, Saito H, <u>Kojima T</u> , Yamazaki T.	Activated protein C resistance in the Japanese population due to homozygosity for the factor V R2 haplotype.	Int J Hematol.	91 (3)	549-550	2010
Miyawaki Y, Suzuki A, Fujimori Y, Takagi A, Murate T, Suzuki N, Katsumi A, Naoe T, Yamamoto K, Matsushita T, Takamatsu J, <u>Kojima T</u> .	Severe hemophilia A in a Japanese female caused by an F8-intron 22 inversion associated with skewed X chromosome inactivation.	Int J Hematol.	92 (2)	405-408	2010
Ito H, Yoshida K, Murakami M, Hagiwara K, Sasaki N, Kobayashi M, Takagi A, <u>Kojima T</u> , Sobue S, Suzuki M, Tamiya-Koizumi K, Nakamura M, Banno Y, Nozawa Y, Murate T.	Heterogeneous sphingosine-1-phosphate lyase gene expression and its regulatory mechanism in human lung cancer cell lines.	Biochim Biophys Acta.	1811	119-128	2011
<u>國吉幸男</u>	Budd-Chiari症候群の成因と病態	肝胆膵	61巻2号	141-148	2010
Inoue R, Nakazawa A, Tsukada N, Katoh Y, Nagao T, <u>Nakanuma Y</u> , Mukai K.	POEMS syndrome with idiopathic portal hypertension: autopsy case and review of the literature.	Pathol Int	60 (4)	316-20	2010
佐藤保則、北村星子、北尾 梓、 <u>中沼安二</u>	特発性門脈圧亢進症の病理と病態	肝胆膵	61 (2)	133-40	2010

発表者氏名	論文タイトル名	発表誌名	巻号	ページ	出版年
Tajiri T, Yoshida H, Obara K, Onji M, Kage M, Kitano S, Kokudo N, Kokubu S, Sakaida I, Sata M, Tajiri H, Tsukada K, Nonami T, Hashizume M, Hirota S, Murashima N, Moriyasu F, Saigenji K, Makuuchi H, Oho K, Yoshida T, Suzuki H, Hasumi A, Okita K, Futagawa S, Idezuki Y	General rules for recording endoscopic findings of esophagogastric varices (2nd edition).	Digestive endoscopy	22(1)	1-9	2010
Kimura A, Kage M, Nagata I, Mushiake S, Ohura T, Tazawa Y, Maisawa S, Tomomasa T, Abukawa D, Okano Y, Sumazaki R, Takayanagi M, Tamamori A, Yorifuji T, Yamato Y, Maeda K, Matsushita M, Matsuishi T, Tanikawa K, Kobayashi K, Saheki T.	Histological findings in the livers of patients with neonatal intrahepatic cholestasis caused by citrin deficiency.	Hepatology research	40(3)	295-303	2010
Yasuni Nakanuma, Yoh Zen, Kenichi Harada, Motoko Sasaki, Akitaka Nonomura, Takeshi Uehara, Kenji Sano, Fukuo Kondo, Toshio Fukusato, Koichi Tsuneyama, Masahiro Ito, Kenichi Wakasa, Minoru Nomoto, Hiroshi Minato, Hironori Haga, Masayoshi Kage, Hirohisa Yano, Joji Haratake, Shinichi Aishima, Tomoyuki Masuda, Hajime Aoyama, Aya Miyakawa-Hayasahino, Toshiharu Matsumoto, Hayato Sanefuji, Hidenori Ojima, Tse-Ching Chen, Eunsil Yu, Ji-Hun Kim, Young Nyun Park and Wilson Tsui.	Application of a new histological staging and grading system for primary biliary cirrhosis to liver biopsy specimens: interobserver agreement.	Pathology International	60(3)	167-174	2010
Morinaga A, Ogata T, Kage M, Kinoshita H, Aoyagi S.	Comparison of liver regeneration after a splenectomy and splenic artery ligation in a dimethylnitrosamine-induced cirrhotic rat model.	HPB (Oxford, England)	12(1)	22-30	2010
谷川 健、中島 収、 鹿毛政義	【病理形態学キーワード】 肝 孤在性動脈・異常動脈	病理と臨床	28	162-163	2010

発表者氏名	論文タイトル名	発表誌名	巻号	ページ	出版年
緒方俊郎、鹿毛政義	肝硬変に対する脾摘を再考する その変遷と功罪	肝臓	51 (5)	205-218	2010
鹿毛政義	門脈圧亢進症の病理 肝内血管系病変を中心に	Minophagen Medical Review	55 (3)	228-289	2010
松谷正一、福沢 健、 渡辺悠人、水本英明、 横須賀 収	門脈血栓症の診断と治療	肝胆脾	61	259-268	2010
Maruyama H, Ishihara T, Ishii H, Tsuyuguchi T, Yoshikawa M, Matsutani S, Yokosuka O.	Blood flow parameters in the short gastric vein and splenic vein on Doppler ultrasound reflect gastric variceal bleeding.	European Journal of Radiology	75	e41-e45	2010
Kasuga H, Mizumoto H, Matsutani S, Kobayashi A, Endo T, Ando T, Yukisawa H, Maruyama H, Yokosuka O.	Portal hemodynamics and clinical outcomes of patients with gastric varices after balloon-occluded retrograde transvenous obliteration.	Journal of Hepatobiliary and Pancreatic Science	17	898-903	2010
Mochizuki S, Kawashita Y, Eguchi S, Takatsuki M, Yamanouchi K, Tokai H, Hidaka M, Soyama A, Nagayoshi S, Kanematsu T.	Liver repopulation by transplanted hepatocytes in a rat model of acute liver failure induced by carbon tetrachloride and a partial hepatectomy.	Ann Transplant	15巻4号	49-55	2010
Yamanouchi K, Eguchi S, Takatsuki M, Hidaka M, Kamohara Y, Miyazaki K, Hamasaki K, Tajima Y, Kanematsu T.	Management of fungal colonization and infection after living donor liver transplantation.	Hepatogastroenterology	57巻101号	852-857	2010
Hamasaki K, Eguchi S, Takatsuki M, Miyazaki K, Soyama A, Hidaka M, Yamanouchi K, Tajima Y, Kanematsu T.	A combination procedure with thrombolytic therapy and balloon dilatation for portal vein thrombus enables the successful performance of antiviral therapy after a living-donor liver transplantation: report of a case.	Surg Today	40巻10号	986-989	2010
Takatsuki M, Eguchi S, Yamanouchi K, Hidaka M, Soyama A, Miyazaki K, Tajima Y, Kanematsu T.	The outcomes of methicillin-resistant Staphylococcus aureus infection after living donor liver transplantation in a Japanese center.	J Hepatobiliary Pancreat Sci	17巻6号	839-843	2010
Eguchi S, Takatsuki M, Hidaka M, Soyama A, Tomonaga T, Muraoka I, Kanematsu T.	Predictor for histological microvascular invasion of hepatocellular carcinoma: a lesson from 229 consecutive cases of curative liver resection.	World J Surg	34巻5号	1034-1038	2010

発表者氏名	論文タイトル名	発表誌名	巻号	ページ	出版年
Yoshida H, Mamada Y, Taniai N, Mineta S, Kawano Y, Mizuguchi Y, Kanda T, Tajiri T.	Shunting and nonshunting procedures for the treatment of esophageal varices in patients with idiopathic portal hypertension.	Hepato-Gastroenterology	57	1139-1144	2010
Kanda T, Ishibashi O, Kawahigashi Y, Mishima T, Takuji K, Mizuguchi Y, Shimizu T, Arima Y, Yokomuro S, Yoshida H, Tajiri T, Uchida E, Takizawa T.	Identification of Obstructive Jaundice-related MicroRNAs in Mouse Liver.	Hepato-Gastroenterology		in press	

Ⅲ. 研究成果の刊行物・別冊

SPECIAL REPORT

GENERAL RULES FOR RECORDING ENDOSCOPIC FINDINGS OF ESOPHAGOGASTRIC VARICES (2ND EDITION)

TAKASHI TAJIRI, HIROSHI YOSHIDA, KATSUTOSHI OBARA, MORIKAZU ONJI, MASAYOSHI KAGE, SEIGO KITANO, NORIHIRO KOKUDO, SHIGEHIRO KOKUBU, ISAO SAKAIDA, MICHIO SATA, HISAO TAJIRI, KAZUHIRO TSUKADA, TOSHIAKI NONAMI, MAKOTO HASHIZUME, SHOUZOU HIROTA, NAOYA MURASHIMA, FUMINORI MORIYASU, KATSUNORI SAIGENJI, HIROYASU MAKUUCHI, KAZUHIKO OHO, TOMOHARU YOSHIDA, HIROAKI SUZUKI, AKITAKE HASUMI, KIWAMU OKITA, SHUNJI FUTAGAWA AND YASUO IDEZUKI

The Japan Society for Portal Hypertension, Tokyo, Japan

General rules for recording endoscopic findings of esophageal varices were initially proposed in 1980 and revised in 1991. These rules have widely been used in Japan and other countries. Recently, portal hypertensive gastropathy has been recognized as a distinct histological and functional entity. Endoscopic ultrasonography can clearly depict vascular structures around the esophageal wall in patients with portal hypertension. Owing to progress in medicine, we have updated and slightly modified the former rules. The revised rules are simpler and more straightforward than the former rules and include newly recognized findings of portal hypertensive gastropathy and a new classification for endoscopic ultrasonographic findings.

Key words: endoscopic findings, esophagogastric varices, portal hypertension.

INTRODUCTION

Bleeding from esophagogastric varices is a catastrophic complication of chronic liver disease. A precise system for the systematic evaluation and recording of esophagogastric varices is essential for the management of portal hypertension. In 1980, the Japanese Research Society for Portal Hypertension proposed a new system called 'The General Rules for Recording Endoscopic Findings on Esophageal Varices'.¹ In 1991, the revised rules were proposed as 'General Rules for Recording Endoscopic Findings of Esophagogastric Varices (1991)'.^{2,3} These rules have gradually been accepted and are now used in many countries. Recently, portal hypertensive gastropathy (PHG) has been recognized as a distinct histological and functional entity. Endoscopic ultrasonography (EUS) can now clearly depict vascular structures around the esophageal wall in patients with portal hypertension. Owing to such progress in medicine, we slightly revised the former rules. The revised rules are simpler and more straightforward than the former rules, and include newly recognized findings of PHG and a new classification for endoscopic ultrasonographic findings.⁴

OUTLINES OF THE NEW RULES

The revised rules are titled 'General Rules for Recording Endoscopic Findings of Esophagogastric Varices (2nd Edition)'.⁴ These new general rules incorporate recommenda-

tions for recording newly recognized findings of PHG and a new classification for findings on EUS. Similar to the former rules, the revised rules comprise six main categories: location (L), form (F), color (C), red color signs (RC), bleeding signs, and mucosal findings (Table 1). In principle, the endoscopic diagnosis is based on endoscopic findings assessed with the naked eye. Findings of gastric varices, which were included with esophageal varices in the former rules, are now listed separately.

Endoscopy

Esophageal varices

Location. There is no change in the rules for location (L). The longitudinal location of esophageal varices (EV) of different caliber is classified into three distinct regions: (i) locus superior (Ls) varices are located in the upper part of the esophagus; (ii) locus medialis (Lm) varices are located in the middle part of the esophagus; and (iii) locus inferior (Li) varices are located in the lower part of the esophagus.

Form. The rules for form (F) also remain the same. EV are classified into four groups according to their shape and size: (i) F_0 lesions lack a varicose appearance. This classification is useful for documenting the disappearance of EV in response to treatment, even if red veins or blue veins are present (Fig. 1a,b); (ii) F_1 lesions are straight, small-caliber varices. Small venous dilatations that disappear on insufflation of the esophagus are not included in this subgroup (Fig. 1c); (iii) F_2 lesions are moderately enlarged, beady varices (Fig. 1d); and (iv) F_3 lesions are markedly enlarged, nodular or tumor-shaped varices (Fig. 1e).

Correspondence: Hiroshi Yoshida, Department of Surgery, Nippon Medical School, 1-1-5 Sendagi, Bunkyo-ku, Tokyo 113-8603, Japan. Email: hiroshiy@nms.ac.jp

Received 22 August 2009; accepted 5 October 2009.

© 2010 The Authors

© 2010 Japan Gastroenterological Endoscopy Society

Table 1. General rules for recording endoscopic findings of esophagogastric varices (2004)

Category	Code subcategory
Location (L)	Ls: Locus superior Lm: Locus medialis Li: Locus inferior Lg-c: Adjacent to the cardiac orifice Lg-cf: Extension from the cardiac orifice to the fornix Lg-f: Isolated in the fornix Lg-b: Located in the gastric body Lg-a: Located in the gastric antrum
Form (F)	F ₀ : No varicose appearance F ₁ : Straight, small-caliber varices F ₂ : Moderately enlarged, beady varices F ₃ : Markedly enlarged, nodular or tumor-shaped varices
Color (C)	Cw: White varices Cb: Blue varices Cw-Th: Thrombosed white varices Cb-Th: Thrombosed blue varices
Red color signs (RC)	RWM: Red wale markings CRS: Cherry red spots HCS: Hematocystic spots Esophageal varices: RC ₀ , RC ₁ , RC ₂ , RC ₃ Gastric varices: RC ₀ , RC ₁ Te: Telangiectasia
Bleeding signs	Gushing bleeding Spurting bleeding Oozing bleeding Red plug White plug
Mucosal findings	E: Erosion Ul: Ulcer S: Scar

Color. The color of EV was referred to as 'fundamental color' in the former rules. In the revised rules, the 'color' of EV is classified into two categories: (i) white varices (Cw) are whitish and look like large folds of the esophageal mucosa (Fig. 2a); (ii) blue varices (Cb) are bluish-white or cyanotic, and distended by blood (Fig. 2b). The esophageal mucosa overlying varices of this category appears very thin. High-risk blue varices are characterized by a fully expanded appearance with a glossy surface, similar to that of an over-inflated balloon. Blue varices that have become purple or violet because of increased variceal pressure are designated as such by adding a 'v' (violet) to their color (C_{bv}) in the revised rules. Thrombosed varices are indicated by adding Th (thrombosis) to their color (i.e. Cb-Th [Fig. 2c] or Cw-Th [Fig. 2d]).

Red color signs. Red color signs (RC) refer to reddish changes seen immediately beneath the submucosa. RC are known to be reliable predictors of the risk of variceal bleeding⁵ and are classified into the following three categories: (i) red wale markings (RWM) are dilated venules oriented longitudinally on the mucosal surface, somewhat like wale or whip marks (Fig. 3a); (ii) cherry-red spots (CRS) are small red spots on the mucosal surface (Fig. 3b); and (iii) hemato-

cytic spots (HCS) are large, round, crimson-red projections that look like blood blisters (Fig. 3c). RC are the most important predictor of variceal bleeding.

RC are graded as 0, 1, 2, or 3 according to their density and distribution: (i) RC₀ = absent; (ii) RC₁ = small in number and localized (Fig. 3d); (iii) RC₂ = intermediate between RC₁ and RC₃ (Fig. 3e); and (iv) RC₃ = large in number and circumferential (Fig. 3f). The RC category (RWM, CRS and/or HCS) is stated in parentheses after the RC grade. RC in patients presenting with F₀ is recorded as F₀, RC₁₋₃. If telangiectasia (Te) is noted, its presence is recorded as Te.

Bleeding signs. Bleeding signs are divided into those found during bleeding and those found after hemostasis. In the former rules, bleeding was classified as spurting or oozing. In the revised rules, bleeding is classified as gushing (Fig. 4a), spurting (Fig. 4b), or oozing. Findings after hemostasis are classified as red plug (Fig. 4c) or white plug (Fig. 4d), similar to the former rules.

Mucosal findings. There is no change in the rules for recording mucosal findings. Mucosal findings are classified into three categories: (i) erosion (E) (Fig. 5a); (ii) ulcer (Ul) (Fig. 5b); and (iii) scar (S) (Fig. 5c). The presence of these findings is recorded as E, Ul, and S.

Evaluation of the effectiveness of treatment

'Eradication' means the disappearance of varices after treatment, including thrombosed varices (F₀, RC₀). 'Residue' means residual varices with F or RC after treatment. 'Recurrence' means the reappearance of eradicated varices (F₀, RC₀) with F and/or RC. 'Relapse' means the worsening of residual varices with F and/or RC.

Note. Findings of EV should be recorded in the order of the six main categories (L, F, C, RC, bleeding signs, and mucosal findings) as shown in the following examples.

1. EV with RWM and CRS: Ls, F₃, Cb, RC₃ (RWM, CRS).
2. Spurting bleeding from EV: Lm, F₂, Cb, RC₁ (CRS), spurting bleeding.
3. Thrombosed blue varices treated by endoscopic injection sclerotherapy: Lm, F₂, Cb-Th, RC₀, Ul.
4. Completely eradicated EV: F₀, RC₀.
5. Recurrent EV with RWM: Li, F₁, RC₁ (RWM).

Gastric varices

Location. Gastric varices (GV) are classified into three main groups based on their relation to the cardiac orifice. GV are classified as Lg-c if they are adjacent to the cardiac orifice (Fig. 6a), Lg-cf if they extend from the cardiac orifice to the fornix (Fig. 6b), and Lg-f if they are localized to the fornix (Fig. 6c). In addition, GV located in the body of the stomach are classified as Lg-b, and those located in the antrum are classified as Lg-a. This classification is based on the relation between the location and the blood supply route of GV.⁶

Red color signs. RC are graded as 0 or 1: (i) RC₀ = absent; (ii) RC₁ = GV with RWM, CRS, and/or HCS. All other codes used to describe EV are also used for GV.

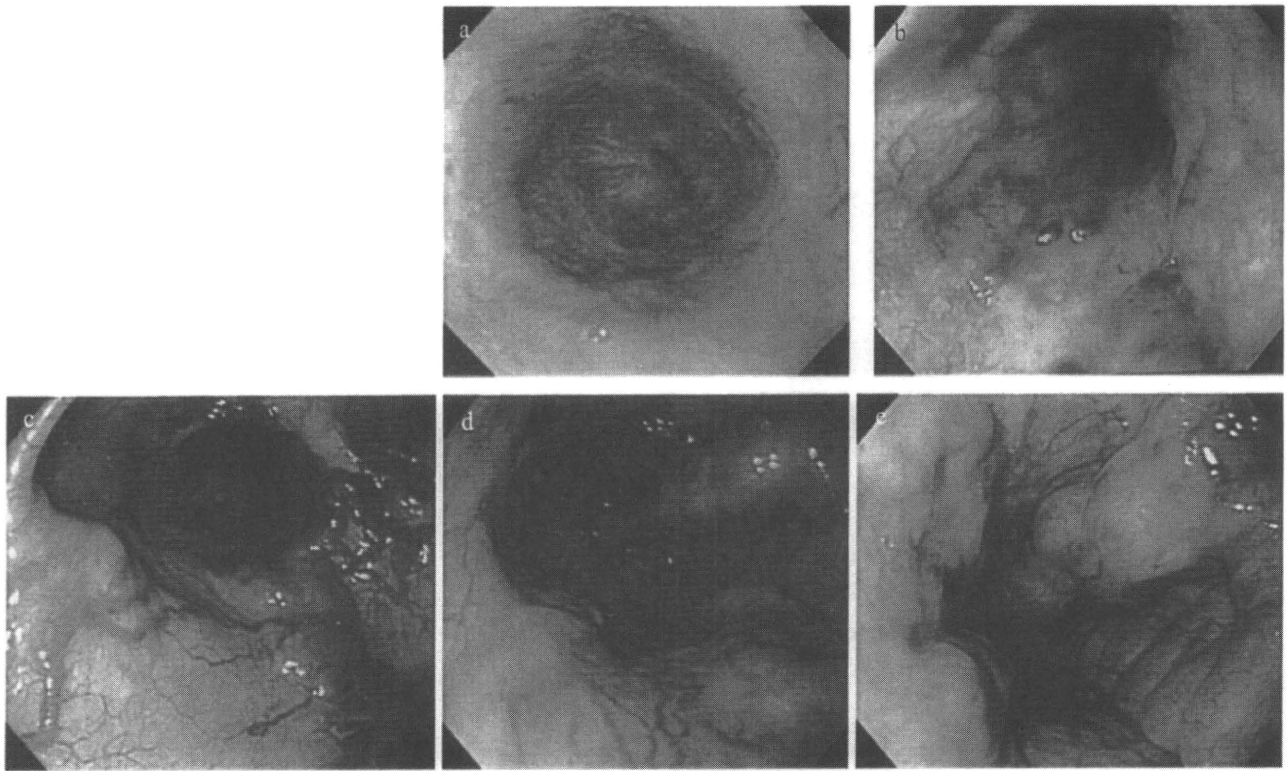


Fig. 1. F_0 lesions lack a varicose appearance. (a) F_0 , RC_0 , S. (b) F_0 , RC_1 . (c) F_1 lesions are straight, small-caliber varices. (d) F_2 lesions are moderately enlarged. (e) F_3 lesions are markedly enlarged, nodular or tumor-shaped varices.

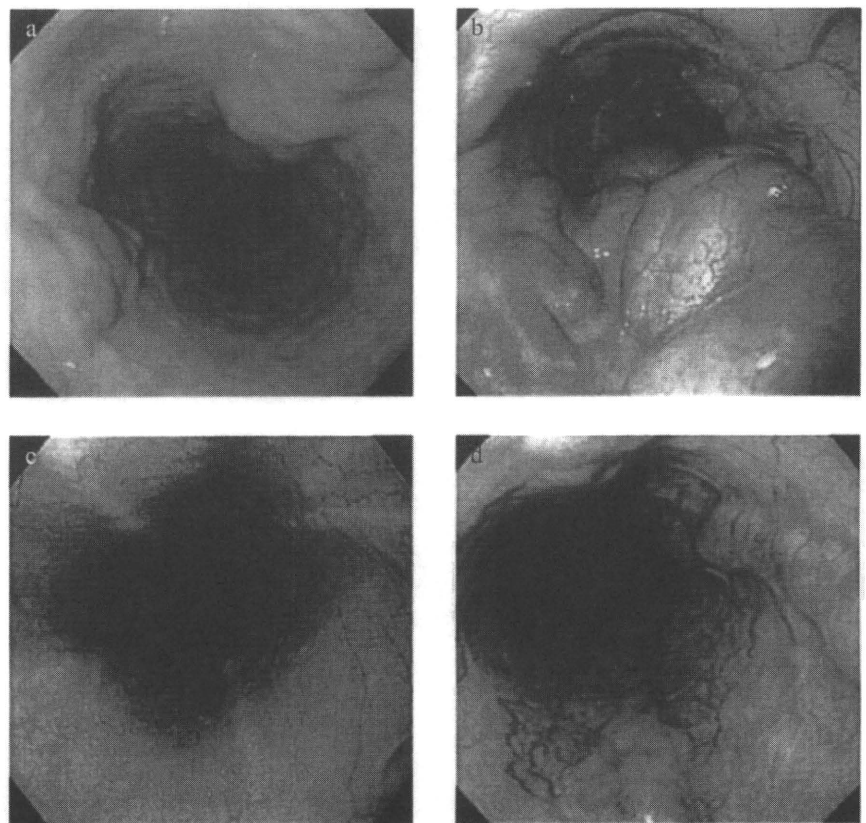


Fig. 2. (a) White varices (Cw), (b) blue varices (Cb), (c) thrombosed white varices (Cw-Th), (d) thrombosed blue varices (Cb-Th).

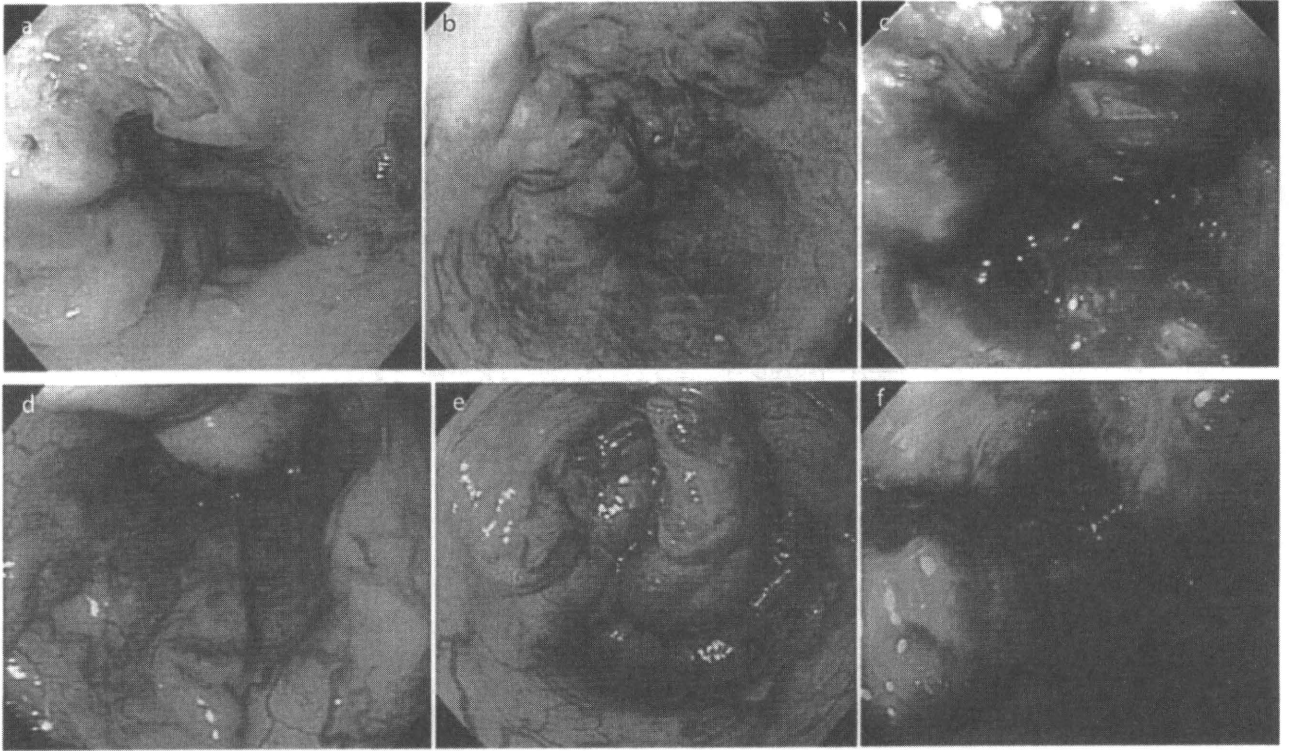


Fig. 3. Red color signs. (a) Red wale markings (RWM), (b) cherry-red spots (CRS), (c) hematocytic spots (HCS), (d) RC₁, (e) RC₂, (f) RC₃.

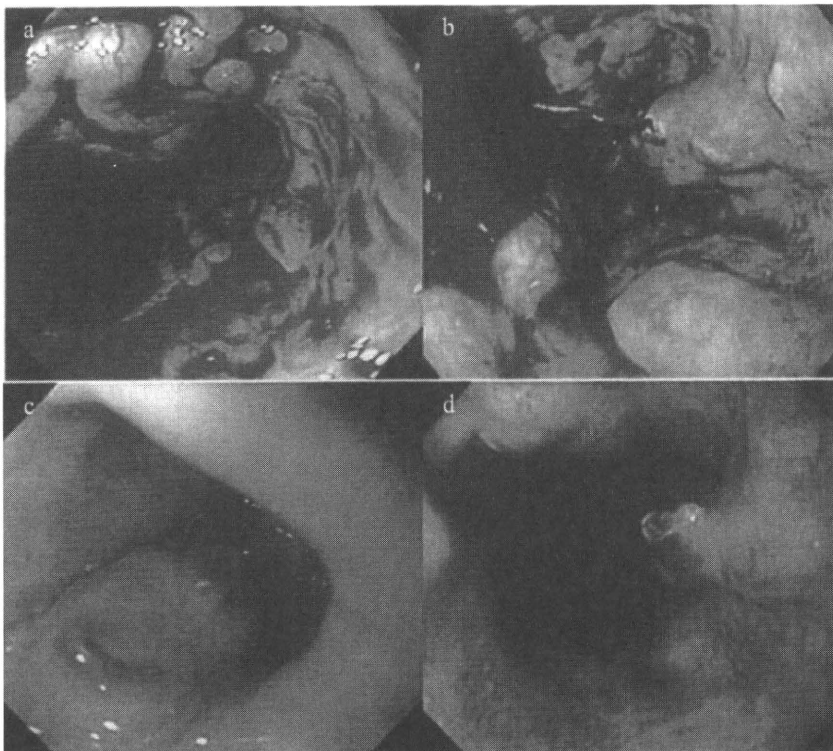


Fig. 4. Bleeding is classified as (a) gushing, (b) spurting, or oozing. Signs appearing after hemostasis are classified as (c) red plug or (d) white plug.

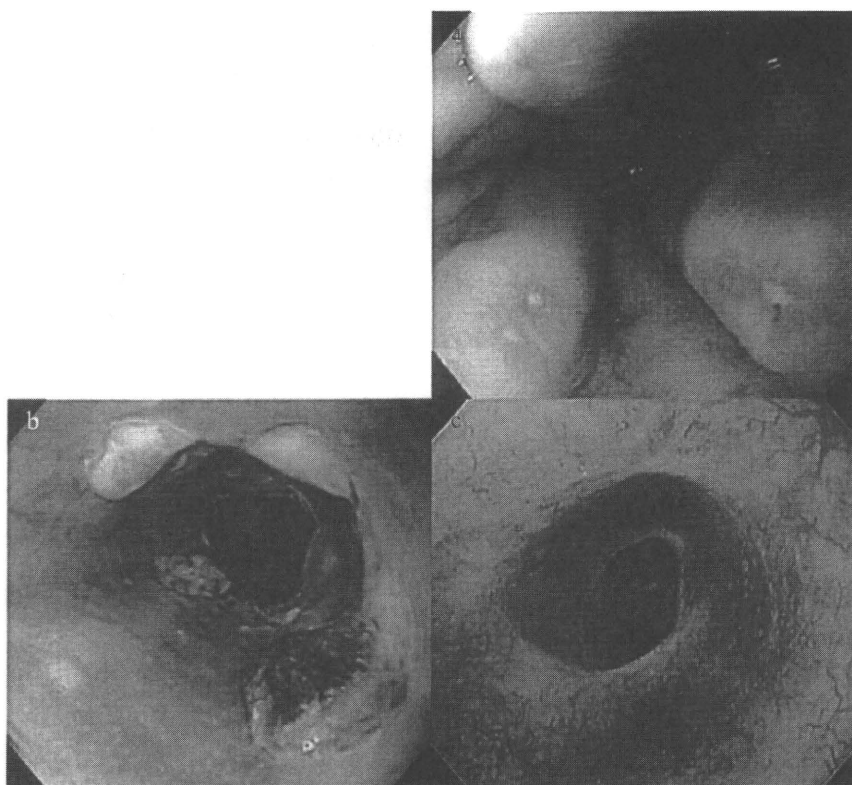


Fig. 5. Mucosal findings are classified as (a) erosion (E), (b) ulcer (UI), or (c) scar (S).

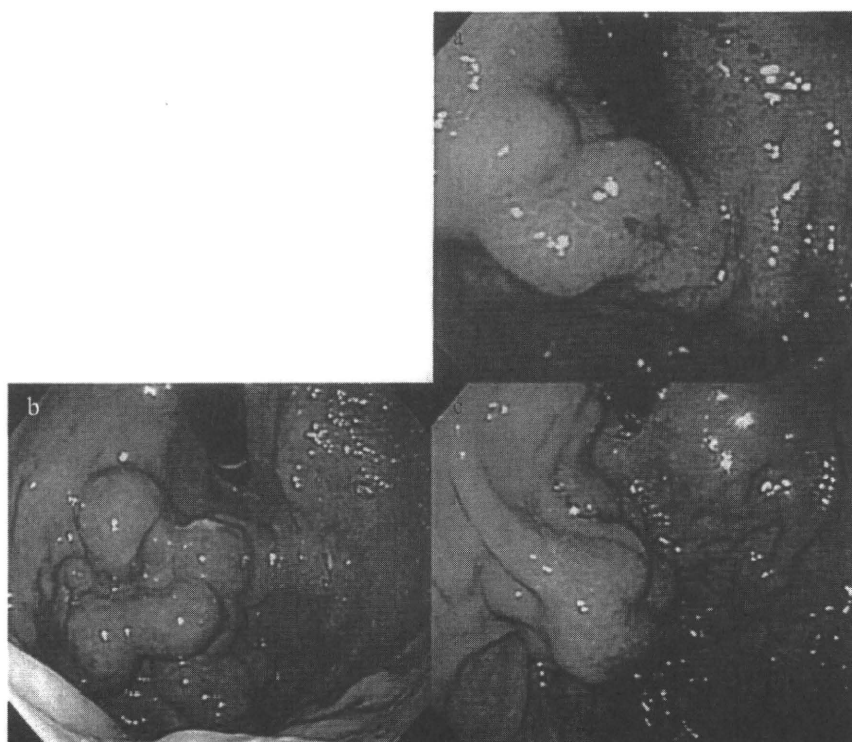


Fig. 6. Gastric varices are classified as (a) Lg-c if they are adjacent to the cardiac orifice, (b) Lg-cf if they extend from the cardiac orifice to the fornix, and (c) Lg-f if they are distant from the cardiac orifice.

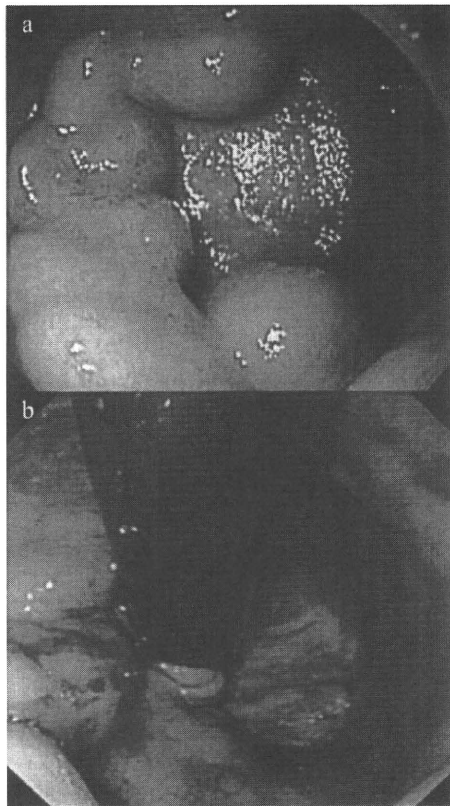


Fig. 7. Ectopic varices. (a) Duodenal varices, (b) rectal varices.

Note. Findings of GV should be recorded in the order of the six main categories (L, F, C, RC, bleeding signs, and mucosal findings) as shown in the following examples.

1. EV and fundic varices: Ls, F₃, Cb, RC₃ (RWM, CRS), Te, Lg-f, F₂, RC₀.
2. Spurting bleeding from GV extending from the cardiac orifice to the fornix: Lg-cf, F₃, spurting bleeding.
3. Thrombosed blue fundic varices: Lg-f, F₂, Cb-Th, RC₀.
4. Recurrent fundic varices: Lg-f, F₁, RC₁.

Ectopic varices

Ectopic varices are defined as gastrointestinal varices other than esophagogastric varices. All codes for EV are used to describe ectopic varices, such as duodenal varices (Fig. 7a), jejunoileal varices, colonic varices, and rectal varices (Fig. 7b).

Portal hypertensive gastropathy

In patients with portal hypertension, bleeding can be associated with gastric mucosal lesions such as hemorrhagic gastritis, acute gastric erosions, bleeding gastritis, or acute erosive gastritis. Recently, mucosal lesions associated with portal hypertension have been referred to as PHG.⁷ Findings associated with PHG are classified into three categories: (i) grade 1, erythematous flecks or maculae; (ii) grade 2, red spots and/or diffuse redness; and (iii) grade 3,

intramucosal or luminal hemorrhage. A snakeskin (mosaic) appearance can be associated with all three grades of PHG (Fig. 8a–f).

Endoscopic ultrasonography

Esophageal varices

On EUS images, EV appear as an echo-free or hypoechoic lumen in the esophageal submucosa (Figs 9, 10a,b).

Diameter. The maximum minor-axis diameter (mm) of EV should be recorded. The absence of an echo-free lumen and hypoechoic lumen after treatment is recorded as D(0).

Perforating veins. The presence or absence of perforating veins (Pv) should be recorded as Pv(+) and Pv(-), respectively. If Pv is present, its maximum diameter (mm) should be recorded.

Peri-esophageal veins. Peri-esophageal veins (Peri-v) refer to a group of small vessels adjacent to the muscularis externa of the esophagus or partly invading the muscular wall of the esophagus. The presence or absence of Peri-v should be recorded as Peri-v(+) and Peri-v(-), respectively.

Para-esophageal veins. Para-esophageal veins (Para-v) refer to a group of rather large vessels distal to the muscularis externa of the esophagus. The presence or absence should be recorded as Para-v(+) and Para-v(-), respectively.

Note. EUS findings on EV should be recorded in the order of the four main categories (D, Pv, Peri-v, Para-v) as shown in the following examples.

1. EV (EUS): D (3), Pv(-), Peri-v(-), Para-v(-).
2. EV (EUS): D (4), Pv(+) (3), Peri-v(+), Para-v(-).

Post-treatment EUS findings. Esophageal wall thickness (mm) should be recorded as an index of hypertrophy (Hy).

Gastric varices

On EUS images, GV appear as an echo-free or hypoechoic lumen in the gastric submucosa (Fig. 10c,d).

Diameter. The maximum minor-axis diameter of GV (mm) should be recorded. The absence of an echo-free lumen and hypoechoic lumen after treatment is recorded as D(0).

Perforating veins. The presence or absence of Pv should be recorded as Pv(+) and Pv(-), respectively. If Pv is present, its maximum diameter (mm) should be recorded.

Peri-gastric veins. Peri-gastric veins (Peri-v) refer to a group of small vessels adjacent to the gastric wall or partly invading the muscular wall of the stomach. The presence or absence of Peri-v should be recorded as Peri-v(+) and Peri-v(-), respectively.

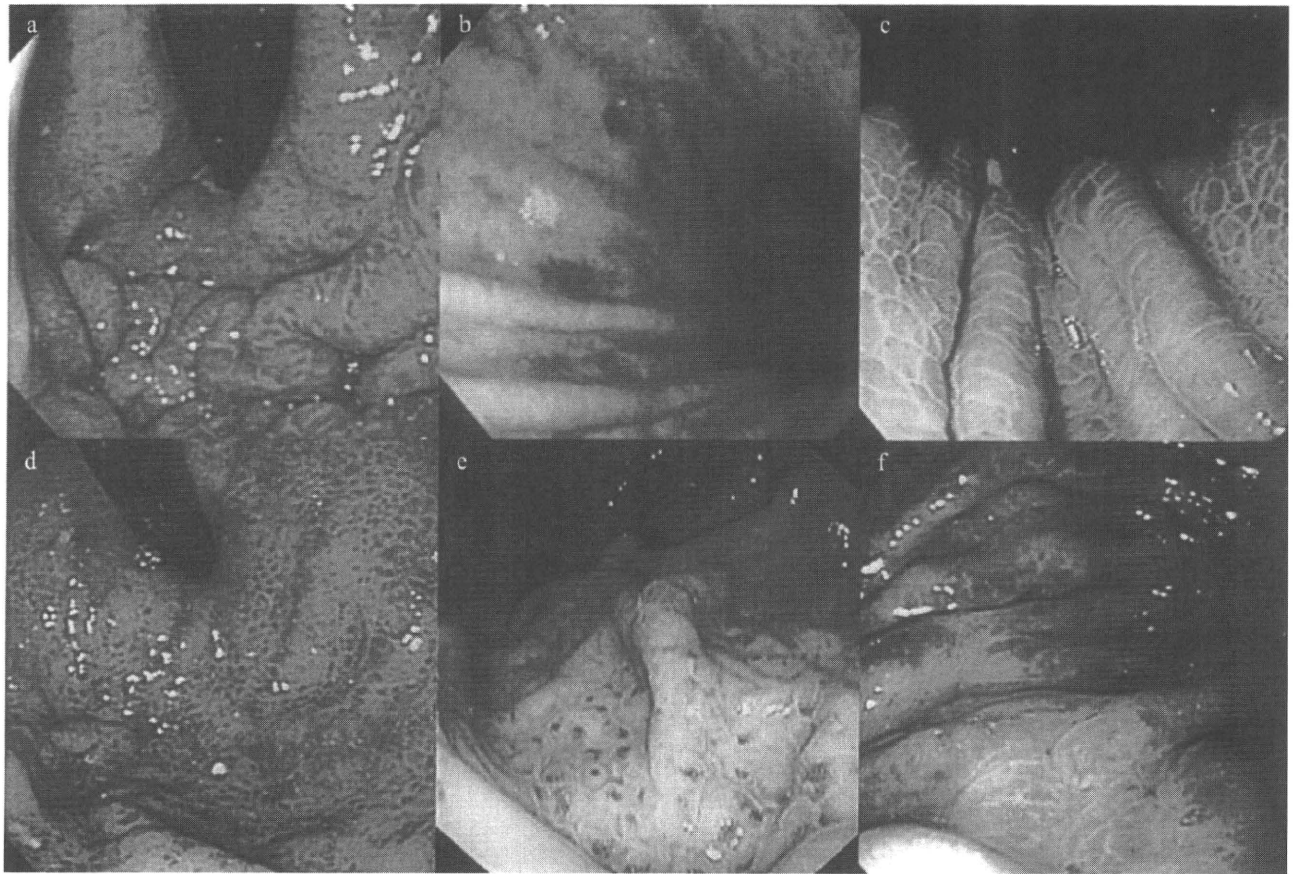


Fig. 8. (a) Fine pink speckling, (b) superficial reddening, (c) snakeskin (mosaic) appearance, (d) diffuse redness, (e) cherry red spots, (f) intramucosal hemorrhage.

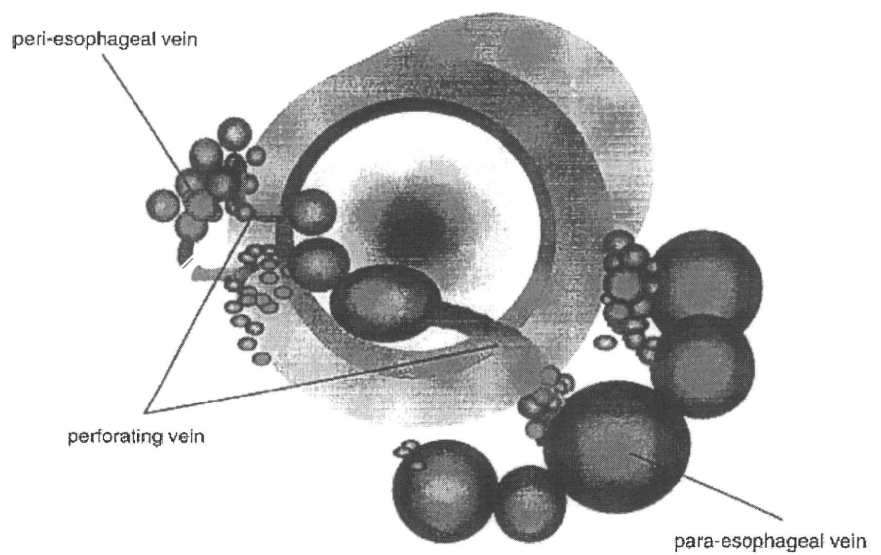


Fig. 9. Schematic drawing of the vascular structure inside and outside the esophageal wall.

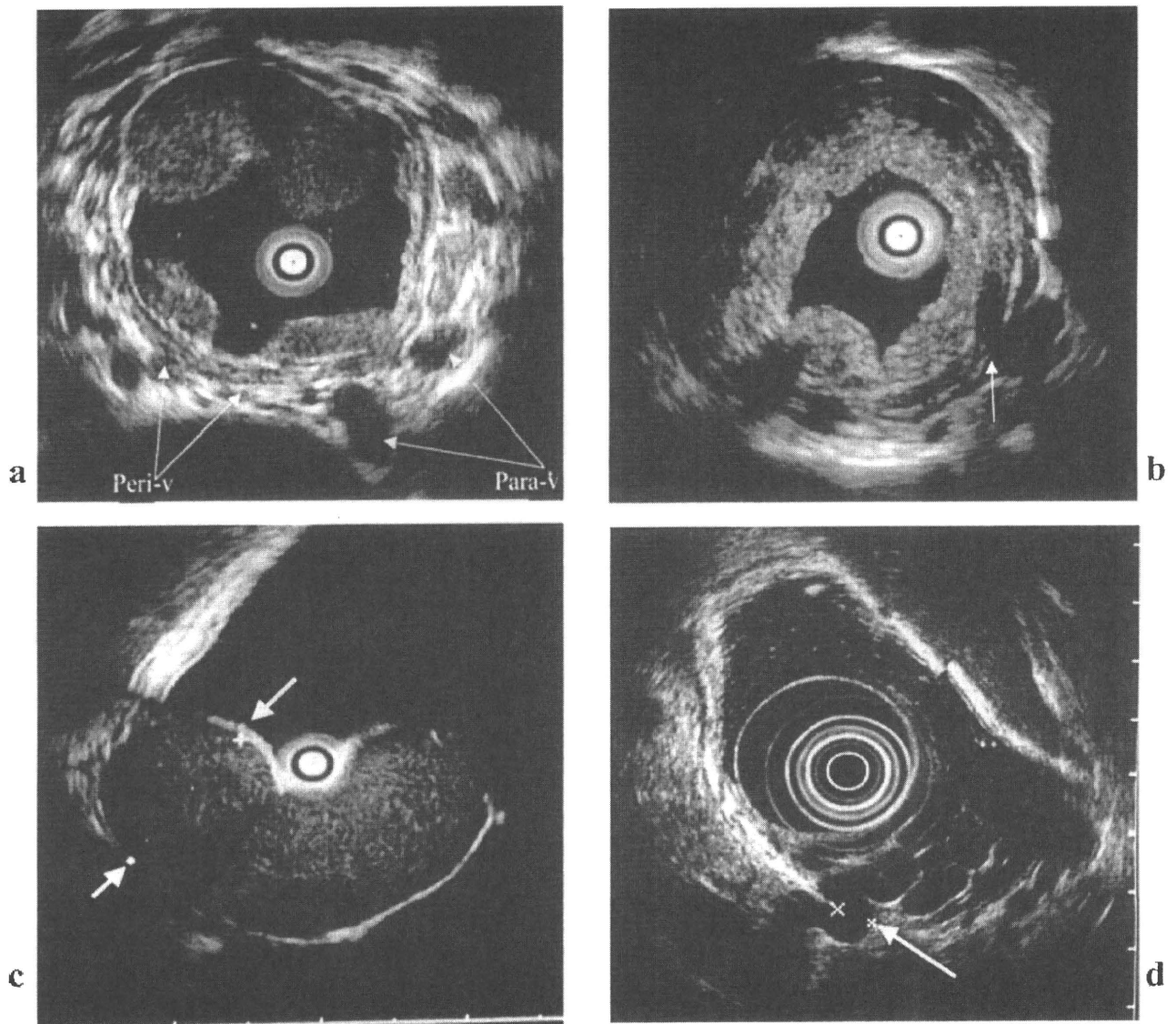


Fig. 10. Endoscopic ultrasonography (EUS) images of esophageal varices: (a) peri-esophageal veins (Peri-v), para-esophageal veins (Para-v); (b) perforating vein (Pv) (arrow). EUS images of gastric varices: (c) using a 20-MHz probe (arrow: diameter of gastric varices), (d) using a 7.5-MHz probe (arrow: perforating vein).

Para-gastric veins. Para-gastric veins (Para-v) refer to a group of rather large vessels distal to the gastric wall. The presence or absence of Para-v should be recorded as Para-v(+) and Para-v(-), respectively.

Note. EUS findings on GV should be recorded in the order of the four main categories (D, Pv, Peri-v, Para-v) as shown in the following examples.

1. GV (EUS): D (8), Pv(+), Peri-v(+), Para-v(+).
2. GV (EUS): D (0), Pv(-), Peri-v(-), Para-v(+).

Post-treatment EUS findings. Gastric wall thickness (mm) should be recorded as an index of hypertrophy (Hy).

ACKNOWLEDGMENT

We thank Kanehara & Co. for the supply of figures.

REFERENCES

1. Japanese Research Society for Portal Hypertension. The general rules for recording endoscopic findings of esophageal varices. *Jpn. J. Surg.* 1980; **10**: 84-7.
2. Idezuki Y. General rules for recording endoscopic findings of esophagogastric varices (1991). Japanese Society for Portal Hypertension. *World J. Surg.* 1995; **19**: 420-2; discussion 3.

© 2010 The Authors

© 2010 Japan Gastroenterological Endoscopy Society

3. The Japan Society for Portal Hypertension and Esophago-Gastric Varices. *The General Rules for Study of Portal Hypertension*. Tokyo: Kanehara & Co., 1996.
4. The Japan Society for Portal Hypertension. *The General Rules for Study of Portal Hypertension*, 2nd edn. Tokyo: Kanehara & Co., 2004.
5. Beppu K, Inokuchi K, Koyanagi N *et al*. Prediction of variceal hemorrhage by esophageal endoscopy. *Gastrointest. Endosc.* 1981; **27**: 213–18.
6. Watanabe K, Kimura K, Matsutani S, Ohto M, Okuda K. Portal hemodynamics in patients with gastric varices. A study in 230 patients with esophageal and/or gastric varices using portal vein catheterization. *Gastroenterology* 1988; **95**: 434–40.
7. McCormack TT, Sims J, Eyre-Brook I *et al*. Gastric lesions in portal hypertension: inflammatory gastritis or congestive gastropathy? *Gut* 1985; **26**: 1226–32.