別紙４

小林宏寿、榎本雅之、樋口哲郎、安野正道、植竹宏之、飯田　聡、石川敏昭、石黒めぐみ、塚本俊輔、岡崎聡、小野宏晃、菊池章史、杉原健一	低位前方切除術	消化器外科	32(8)	1307-1312	2009
植竹宏之、石川敏昭、杉原健一	大腸がん術後補助療法における欧米と日本の相違点	臨床腫瘍プラクティス	5(3)	305-307	2009
小林宏寿、杉原健一	大腸癌取扱い規約と大腸癌治療ガイドライン	医学のあゆみ	230(10)	959-964	2009
植竹宏之、石川敏昭、杉原健一	大腸がん化学療法におけるベバシズマブの位置付けとその効果	Mebio	26(10)	66-71	2009
石黒めぐみ、石川敏昭、植竹宏之、杉原健一	大腸がんの術後補助化学療法、今後の展望	Mebio	26(10)	116-123	2009
石黒めぐみ、小林宏寿、杉原健一	術後サーベイランスは予後の改善に寄与するか	外科治療	101(4)	479-485	2009
Fujimori T, Fujii S, Saito N, Sugihara K	Pathologic diagnosis of early colorectal cancer and its clinical implication	Digestion	79(suppl.1)	40-51	2009
Kobayashi H, Sugihara K, Uetake H, Higuchi T, Yasuno Y, Enomoto M, Iida S, Lenz HJ, Danenberg K, Danenberg PV	MessengerRNA expression of COX-2 and angiogenetic factors in primary colorectal cancer and corresponding liver metastasis	Int J Oncol	34	1147-1153	2009
Motoyama K, Inoue H, Takatsuno Y, Tanaka F,	Over-and under-expressed microRNA s in	Int J Oncol	34	1069-1075	2009

別紙４

Mimori K, Uetake H, Sugihara K, Mori M	human colorectal cancer				
Kinugasa Y, Sugihara K	Why does levator ani nerve damage occur during rectal surgery?	J Clin Oncol	27(6)	999-1000	2009
Kobayashi H, Mochizuki H, Kato T, Mori K, Kameoka S, Shirouzu K, Sugihara K	Outcomes of Surgery alone for lower rectal cancer with and without pelvic side wall dissection	Dis Colon Rectum	52	567-576	2009
Kobayashi H, Mochizuki H, Morita T, Kotake K, Teramoto T, Kameoka S, Saito Y, Takahashi K, Hase K, Ohya M, Maeda K, Hirai T, Kameyama M, Shirouzu K, Sugihara K	Timing of relapse and outcome after curative resection for colorectal cancer: a Japanese multicenter study	Dig Surg	26	249-255	2009
Akasu T, Sugihara K, Moriya Y	Male urinary and sexual functions after mesorectal excision alone or in combination with extended lateral pelvic lymph node dissection for rectal cancer	Ann Surg Oncol	16(10)	2779-2786	2009

別紙４

研究成果の刊行に関する一覧表

雑誌：

	論文タイトル名	発表誌名	巻号	ページ	出版年
金澤　周，塩澤　学，稲垣　大輔，菅野　伸洋，赤池　信，今田　敏夫	下部直腸癌に対し diverting stoma として回腸に人工肛門を造設した患者における術後イレウスの検討	日本大腸肛門病学会誌	62	497-501	2009
Yamamoto N, Oshima T, Sato T, Yamada R, Fujii S, Nagano T, Shiozawa M, Akaike M, Wada N, Rino Y, Kunisaki C, Masuda M, Tanaka K and Imada T	Reduced expression of *AdipoR1* gene is correlated with venous invasion in colorectal cancer	MOLECULAR MEDICINE REPORTS	2	555-559	2009
大島　貴，國崎主税，吉原和恵，佐藤　勉，山本直人，山田六平，永野靖彦，藤井正一，田村周三，金澤　周，山田貴充，稲垣大輔，塩澤　学，赤池信，益田宗孝，今田敏夫，大舘敬一	臨床検体を用いた消化器癌のバイオマーカーの検索	横浜医学	60	49-56	2009
Shiozawa M, Sugano N, Tsutida K, Morinaga S, Akaike M, Sugimasa Y	A phase I sutudy of combination therapy with S-1 and irinotecan(cpt-11) in patients with advanced colorectal cancer	J Cancer Res Clin Oncol	135	365-370	2009
Naoyuki Okamoto, Yohei Miyagi, Akihiko Chiba, Makoto Akaike, Manabu Shiozawa, Akira Imaizumi, Hirishi Yamamoto, Toshihiko Ando, Minoru Yamakado and Osamu Tochikubo	Diagnostic modeling with differences in plasma amino acid profiles between non-cachectic colorectal/breast cancer patients and healthy individuals	Int. J. Med. Sci.	1(1)	1-8	2009
Sato T, Oshima T, Yoshihara K, Yamamoto N, Yamada R, Nagano Y, Fujii S, Kunisaki C, Shiozawa M, Akaike M, Rino Y, Tanaka K, Masuda M and Imada T	Overexpression of the fibroblast growth factor receptor-1 gene correlates with liver metastasis in colorectal cancer	ONCOLOGY REPORTS	21	211-216	2009

別紙４

金澤　周，塩澤　学，田村周三，山田貴充，稲垣大輔，山本直人，森永聡一郎，佐藤　勉，大島貴，湯川寛夫，利野　靖，益田宗孝，今田敏夫，赤池　信	結腸癌手術クリニカルパスにおけるパス離脱の危険因子の検討	横浜医学	60	501-508	2009

別紙４

研究成果の刊行に関する一覧表

書籍：

著者氏名	論文タイトル名	書籍全体の編集者名	書籍名	出版社名	出版地	出版年	ページ

雑誌：

発表者氏名	論文タイトル名	発表誌名	巻号	ページ	出版年
Shoichi Fujii, Hiroshi Shimada, Shigeru Yamagishi, Mitsuyoshi Ota, Chikara Kunisaki, Hideyuki Ike, Yasushi Ichikawa	Evaluation of intraperitoneal lavage cytology before colorectal cancer resection	International Journal of Colorectal Disease	24 (8)	907-914	2009
Shoichi Fujii, Hiroshi Shimada, Shigeru Yamagishi, Mitsuyoshi Ota, Yasushi Ichikawa, Chikara Kunisaki, Hideyuki Ike, Shigeo Ohki	Surgical Strategy for Local Recurrence after Resection of Rectal Cancer	Hepato-gastroenterology	56	667-671	2009

別紙４

研究成果の刊行に関する一覧表

書籍：

著者氏名	論文タイトル名	書籍全体の編集者名	書籍名	出版社名	出版地	出版年	ページ

雑誌：

発表者氏名	論文タイトル名	発表誌名	巻号	ページ	出版年
齊藤修治，絹笠祐介，塩見明生，　富岡寛行，橋本洋右，上坂克彦	副中結腸動脈周囲リンパ節郭清を要する脾彎曲部横行結腸癌に対する腹腔鏡下手術	手術	63(11)	1691-1695	2009
赤本伸太郎，齊藤修治，奥本龍夫，塩見明生，絹笠祐，石井正之	馬蹄腎を合併したＳ状結腸癌に対して腹腔鏡下Ｓ状結腸切除術を施行した１例	日本内視鏡外科学会	14(4)	461-465	2009
M. Ishii, M. Ota, S. Saito, Y. Kinugasa, A. Shiomi, I. Ito	Lymphatic vessel invasion detected by monoclonal antibody D2-40 as a predictor of lymph node metastasis in T1 colorectal cancer.	International Journal of Colorectal Disease.	24	1069-1074	2009
上坂克彦，松永和哉，金本秀行，杉浦禎一，大城国夫，成本壮一，城原幹太，住吉辰朗，寺島雅典，坂東悦郎，齊藤修治	胆道癌の診断において直接胆道癌造影は今でも必要なのか？	肝胆膵.	51(1)	59-67	2009
上坂克彦，金本秀行，杉浦禎一，水野隆史，松永和哉，前田敦行，長尾厚樹，住吉辰朗，齊藤修治，坂東悦郎，寺島雅典	減黄前 MDCT による肝門部胆管癌進展度診断の正確性とそれに基づく手術成績.	癌の臨床.	55(7)	501-507	2009
上坂克彦，金本秀行，杉浦禎一，水野隆史，松永和哉，住吉辰朗，長尾厚樹，齊藤修治，坂東悦郎，寺島雅典	Binf 陽性胆嚢癌に対する根治手術―その意義と限界.	臨床外科.	64(8)	1115-1119	2009

研究成果の刊行に関する一覧表（記入例）

雑誌

発表者氏名	論文タイトル名	発表誌名	巻号	ページ	出版年
山口高史	【基本手技で困らないためのコツ　先輩たちの経験から学ぼう!】 先人のコツ　直腸診　基本的態度.	レジデントノート	11巻 2号	232-234	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
山口高史、坂井義治ほか	側方転移を伴う下部直腸癌に対し、腹腔鏡下直腸切断術、左内腸骨血管合併側方郭清術を施行した１例.	手術	63　巻 11 号	1721-1724	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
山口高史、南口早智子ほか	多発性直腸カルチノイドを合併した神経線維腫症１型の１例.	日本消化器外科学会雑誌	43　巻 2 号	202-207	2010

別紙４

研究成果の刊行に関する一覧表

書籍：

著者氏名	論文タイトル名	書籍全体の編集者名	書籍名	出版社名	出版地	出版年	ページ

雑誌：

発表者氏名	論文タイトル名	発表誌名	巻号	ページ	出版年
Noura S, Ohue M, Seki Y, Tanaka K, Motoori M, Kishi K, Miyashiro I, Ohigashi H, Yano M, Ishikawa O, Tsukuma H, Murata K, Kameyama M.	Second Primary Cancer in Patients with Colorectal Cancer after a Curative Resection.	Dig Surg.	26	400-405	2009
Noura S, Ohue M, Seki Y, Yano M, Ishikawa O, Kameyama M.	Long-term prognostic value of conventional peritoneal lavage cytology in patients undergoing curative colorectal cancer resection.	Dis Colon Rectum.	52	1312-20	2009
Noura S, Ohue M, Seki Y, Tanaka K, Motoori M, Kishi K, Miyashiro I, Ohigashi H, Yano M, Ishikawa O, Miyamoto Y.	Feasibility of a Lateral Region Sentinel Node Biopsy of Lower Rectal Cancer Guided by Indocyanine Green Using a Near-Infrared Camera System.	Ann Surg Oncol	17	144-51	2009
Miyoshi N, Ohue M, Noura S, Yano M, Sasaki Y, Kishi K, Yamada T,	Surgical usefulness of indocyanine green as an alternative to India ink	Surg Endosc.	23	347-51	2009

別紙４

Miyashiro I, Ohigashi H, Iishi H, Ishikawa O, Imaoka S.	for endoscopic marking.				
Takashima A, Shimada Y, Hamaguchi T, Ito Y, Masaki T, Yamaguchi S, Kondo Y, Saito N, Kato T, Ohue M, Higashino M, Moriya Y; Colorectal Cancer Study Group of the Japan Clinical Oncology Group.	Current therapeutic strategies for anal squamous cell carcinoma in Japan.	Int J Clin Oncol.	14	416-20	2009
Goranova TE, Ohue M, Kato K	Putative precursor cancer cells in human colorectal cancer tissue.	Int J Clin Exp Pathol	2	154-62	2009
Shida K, Misonou Y, Korekane H, Seki Y, Noura S, Ohue M, Honke K, Miyamoto Y.	Unusual accumulation of sulfated glycosphingolipids in colon cancer cells.	Glycobiology	19	1018-33	2009
Misonou Y, Shida K, Korekane H, Seki Y, Noura S, Ohue M, Miyamoto Y	Comprehensive clinico-glycomic study of 16 colorectal cancer specimens: elucidation of aberrant glycosylation and its mechanistic causes in colorectal cancer cells.	J Proteome Res.	8	2990-3005	2009

別紙４

研究成果の刊行に関する一覧表

書籍：

著者氏名	論文タイトル名	書籍全体の編集者名	書籍名	出版社名	出版地	出版年	ページ

雑誌：

発表者氏名	論文タイトル名	発表誌名	巻号	ページ	出版年
安井昌義，三嶋秀行，池永雅一，宮崎道彦，中森正二，辻仲利政	直腸癌に対する腹腔鏡下低位前方切除術後・早期経口摂取の検討	日本大腸肛門病学会雑誌	63	27-31	2010
三嶋秀行，池永雅一，安井昌義，辻仲利政	大腸癌	消化器外科	32	1981-1991	2009
三嶋秀行，平尾素宏，藤谷和正	化学療法に伴う消化管疾患	臨床消化器内科	24	294-300	2009
Kono T, Mishima H, Shimada M, Morita S, and Sakamoto J	Preventive Effect of Goshajinkigan on Peripheral Neurotoxicity of FOLFOX Therapy: A Placebo-controlled Double-blind Randomized Phase II Study (the GONE Study)	Jpn. J. Clin. Oncol	39	847-849	2009
Nagata N, Kondo K, Kato T, Shibata Y, Okuyama Y, Ikenaga M, Tanemura H, Oba K, Nakao A, Sakamoto J, Mishima H	Multicenter phase II study of FOLFOX for metastatic colorectal cancer (mCRC) in Japan; SWIFT-1 and 2 study.	Hepatogastroenterology	56	1346-53	2009

別紙４

研究成果の刊行に関する一覧表

書籍：

著者氏名	論文タイトル名	書籍全体の編集者名	書籍名	出版社名	出版地	出版年	ページ

雑誌：

発表者氏名	論文タイトル名	発表誌名	巻号	ページ	出版年
Koizumi W,Boku N, Yamaguchi K, Miyata Y, Sawaki A, Kato T, Toh Y, Hyodo I, Nishina T, Furuhata T, Miyashita K, Okada Y.	Phase II study of S-1 plus leucovorin in patients with metastatic colorectal cancer.	Ann Oncol.	10	Epub ahead of print	2009
Ishida H,Miyake Y, Fukunaga M, Watanabe Y, Kato T, Takemoto H, Furukawa H.	A feasibility study of UFT/LV and irinotecan (TEGAFIRI) in advanced or metastatic colorectal cancer: Osaka Gastrointestinal Cancer Chemotherapy Study Group (OGSG) PROG	Jpn J Clin Oncol	39	601-605	2009
加藤健志	外来化学療法中止のタイミンンフォームドコンセント	-消化器の臨床	12	677-680	2009
加藤健志	新規承認剤による大腸がんの最新化学療法　カペシタビン(ゼローダ)	消化器肝胆膵ケア	13	91-98	2009

別紙４

研究成果の刊行に関する一覧表

書籍

著者氏名	論文タイトル名	書籍全体の編集者名	書　籍　名	出版社名	出版地	出版年	ページ

雑誌

発表者氏名	論文タイトル名	発表誌名	巻号	ページ	出版年
佐藤武郎，小澤平太，内藤正規，池田篤，　中村隆俊，小野里航，三浦啓壽，筒井敦子，西宮洋史，井原厚，渡邊昌彦	【必読　一冊に凝縮した研修医のための手術書】 各論 虫垂炎　腹腔鏡下虫垂切除術(解説/特集)	外科	71 巻 12 号	1373-1376	2009.11
小澤平太，内藤正規，池田篤，佐藤武郎，小野里航，中村隆俊，井原厚，渡邊昌彦	【できる!縫合・吻合】　部位(術式)別の縫合・吻合法 大腸 結腸亜全摘術後の器械による回腸-直腸吻合(解説/特集)	臨床外科	64 巻 11 号	230-234	2009.10
小野里航，中村隆俊，内藤正規，旗手和彦，小澤平太，佐藤武郎，井原厚，渡邊昌彦	【手術助手に求められるもの】 腹腔鏡下低位前方切除術(解説/特集)	消化器外科	32 巻 8 号	1359-1369	2009.07
佐藤武郎，小澤平太，旗手和彦，内藤正規，中村隆俊，小野里航，筒井敦子，三浦啓寿，井原厚，渡邊昌彦	【直腸癌に対する側方リンパ節郭清と術前化学放射線療法の治療成績】 局所進行直腸癌に対する S-1/CPT-11 を用いた術前化学放射線療法第 I 相試験	癌の臨床	55 巻 2 号	133-139	2009.04
Nakamura T, Onozato W, Mitomi H, Naito M, Sato T, Ozawa H, Hatate K, Ihara A, Watanabe M.	Retrospective, matched case-control study comparing the oncologic outcomes between laparoscopic surgery and open surgery in patients with right-sided colon cancer	Surg Today.	39(12)	1040-5	2009 Dec 8

Nakamura T, Onozato W, Mitomi H, Sato T, Hatate K, Naioto M, Ihara A, Watanabe M	Analysis of the risk factors for wound infection after surgical treatment of colorectal cancer: a matched case control study.	Hepatogastroenterology	56(94-95)	1316-20	2009 Sep-Oct

研究成果の刊行に関する一覧表

書籍：

著者氏名	論文タイトル名	書籍全体の編集者名	書籍名	出版社名	出版地	出版年	ページ

雑誌：

発表者氏名	論文タイトル名	発表誌名	巻号	ページ	出版年
山上英樹，益子博幸，近藤征文，岡田邦明，石津寛之，本間重紀	上腸間膜静脈腫瘍塞栓の診断にCT portographyが有用であった上行結腸癌の1例	日本大腸肛門病学会雑誌	62	38-43	2009

別紙４

研究成果の刊行に関する一覧表

書籍：

著者氏名	論文タイトル名	書籍全体の編集者名	書籍名	出版社名	出版地	出版年	ページ

雑誌：

発表者氏名	論文タイトル名	発表誌名	巻号	ページ	出版年
須藤剛、佐藤敏彦、盛直生、高野成尚、石山廣志朗、桜井直樹、斉藤聖宏、飯澤肇、池田栄一	高度な肝機能障害を伴い切除不能多発肝転移を有する大腸癌症例に対する肝動注併用ＦＯＬＦＯＸ療法の検討	癌と化学療法	第36巻	71-76	2009
須藤剛、池田栄一、高野成尚、盛直樹、石山廣志朗、佐藤敏彦	他臓器重複大腸癌の臨床病理学的検討	日本大腸肛門病学会雑誌	第62巻	82-88	2009

Ⅳ. 研究成果の刊行物・別冊

Int J Clin Oncol (2009) 14:416–420
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ORIGINAL ARTICLE

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Tetsuya Hamaguchi · Yoshinori Ito · Tadahiko Masaki
Shigeki Yamaguchi · Yukifumi Kondo · Norio Saito
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Current therapeutic strategies for anal squamous cell carcinoma in Japan

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Abstract
Background. In Western countries, chemoradiotherapy (CRT) is well established as the standard therapy for stages II/III anal squamous cell carcinoma (ASCC). In Japan, the therapeutic modalities for and outcomes of this disease have not been clarified because ASCC is quite rare. The Colorectal Cancer Study Group of the Japan Clinical Oncology Group (JCOG-CCSG) conducted a survey to determine the current therapeutic strategies for ASCC in Japan.

Methods. In July 2006, a questionnaire was sent to 49 institutions affiliated with the JCOG-CCSG to gather information on numbers of cases, therapeutic modalities, and outcomes. The target subjects were patients with stages II/III ASCC, diagnosed from January 2000 to December 2004, who were 20–80 years of age with normal major organ function and no severe complications.

Results. Replies were received from 40 institutions. A total of 59 patients satisfied the subject criteria. Detailed information was obtained for 55 subjects; 25 (45%) had stage II ASCC and 30 (55%) had stage III ASCC. CRT was performed in 25 patients (45%); surgery in 17 (31%); surgery combined with radiotherapy (RT), chemotherapy, or CRT in 8 (15%); and RT in 5 (9%). Complete response rate in CRT was 80% (20/25). The 3-year progression-free survival rates for all subjects and for CRT-only subjects were 67% and 77%, respectively.

Conclusion. From 2000 to 2004, only 59 patients with ASCC were identified in the JCOG-CCSG survey and about half of them underwent CRT.

Key words Anal cancer · Squamous cell carcinoma · Chemoradiotherapy

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Introduction

The definition of anal cancer is anal canal cancer arising in the anal canal from the upper margin of the puborectalis muscle attachment site to the margin of the anus and cancer of the perianal skin adjacent to the anal verge. According to reports published in various Western countries, anal cancer accounts for approximately 2% of all cancers.[1] The histological types vary widely and include adenocarcinoma, squamous cell carcinoma, adenosquamous carcinoma, basaloid carcinoma, malignant melanoma, and sarcoma.

While precise details on the incidence of anal cancer in Japan are unknown, a population survey report in 2003 published by the Japanese Ministry of Health, Labour and Welfare stated that 261 patients had died of anal cancer

accounting for 0.67% of all deaths caused by colorectal cancers. According to a survey involving 73 medical facilities conducted by the Japanese Society for Cancer of the Colon and Rectum (JSCCR), with an average follow-up period of 17.2 years,[2] there were a total of 1540 malignant anal tumors; 226 (14.7%) of these cases were squamous cell carcinomas and 24 (1.6%) were basaloid epithelial cancer. Although anal cancer is a relatively rare disease in the United States, there were 4660 patients (approximately 2 per 100000) in 2006.[1] The number of cases had doubled in 30 years and is expected to increase in the future.[3,4] Based on the current situation in Western countries, the incidence of anal cancer is also expected to rise in Japan. It is reported that the high incidence is associated with female gender, infection with human papillomavirus (HPV), lifetime number of sexual partners, genital warts, cigarette smoking, receptive anal intercourse, and infection with human immunodeficiency virus (HIV).[5]

Until the 1980s, surgery was the standard therapy for anal squamous cell carcinoma (ASCC) in Western countries.[6,7] Chemoradiotherapy (CRT) then replaced surgery as the standard treatment for stages II/III ASCC localized in the pelvis. The most important advantage of CRT is that the function of the anus can be preserved, but salvage surgery can also be safely performed if any cancer remains or if there is local recurrence after CRT. The majority of recurrences after CRT are local; the incidence of distal metastasis is relatively low, at 10%–17%, so salvage surgery can be performed for local recurrences as well. The results of retrospective studies of CRT have indicated comparable or better outcomes when it is compared to surgery.[8–11] Although there are no prospective studies comparing CRT and surgery to date, CRT is now considered the standard therapy for stages II/III ASCC in Western countries.

There are only a few published reports on ASCC in Japan because the disease is quite rare in this country; it is not clear what types of treatment are performed or how effective each treatment is against ASCC. Consequently, the Colorectal Cancer Study Group of the Japan Clinical Oncology Group (JCOG-CCSG) decided to conduct a survey on stages II/III ASCC in order to determine the current therapeutic strategies in Japan.

Methods

In May 2006, questionnaires were sent to 49 institutions affiliated with the JCOG-CCSG.

Questionnaire

Question 1. – Which option best describes the treatment of stages II/III ASCC at your institution as of May 2006:
(a) Surgery (alone or with preoperative/postoperative radiotherapy [RT], chemotherapy [CTx], or CRT
(b) RT (with surgery if cancer remains);
(c) CRT (with surgery if cancer remains) or
(d) Other (specify)?

Question 2. – During the 5-year period from January 2000 through December 2004, how many patients satisfied all of the following conditions: stages II/III ASCC; age between 20 and 80 years; performance status 0/1 with major organ function (GOT/GPT ≤100 IU/I, creatinine ≤1.5 mg/dl); and no severe complications?

Question 3. – Please provide the following details for each of the patients identified in question 2:
Start of initial therapy – age, gender, stage, and therapy (surgery, RT, CRT or other).
Initial therapy effectiveness (complete response [CR], partial response [PR], no change [NC], progressive disease [PD], or not evaluated [NE]).
Confirmation date of progression/recurrence, last known date of survival, and/or date of death.
Cause of death (primary disease, another disease, therapy-related death, other, and unknown).

Question 3 Definitions of terms. – Staging was defined according to the sixth edition of the cancer staging manual of the American Joint Committee on Cancer. Therapeutic effectiveness was determined by each attending physician.

Statistical analysis

Progression-free survival (PFS) was the length of time from the start of therapy to the confirmation date of progression/recurrence or death. Overall survival (OS) was the length of time from the start of therapy to the date of death. If the survival status of a patient was unknown, the last known date of survival was used. PFS and OS were determined using the Kaplan-Meier method, and statistical analyses were performed using Dr. SPSS II 11.0.1J (SPSS Japan, Tokyo, Japan).

Results

Replies were obtained from 40 of the 49 affiliated institutions (response rate, 82%) between May and September 2006.

Question 1

In the treatment of stage II ASCC, CRT was selected at 28 institutions (70%), surgery at 8 (20%) and other types of treatment at 4 (10%). As for the treatment of stage III ASCC, CRT was select at 27 institutions (67%), surgery at 9 (23%) and other types of treatment at 4 (10%).

Questions 2 and 3

Patient/Subject background information

During the 5-year period from January 2000 to December 2004, a total of 59 patients satisfied the subject criteria

Table 1. Patient characteristics

All patients	59
Patients with detailed information	55
Age, years; median (range)	66 (33–80)
Gender	
Male	9
Female	46
cT	
1	3
2	30
3	12
4	7
Unknown	3
cN	
1	25
2	5
3	16
Unknown	9
cStage[a]	
II	25
IIIA	5
IIIB	25
Treatment modality	
Chemoradiotherapy	25
Surgery	17
Surgery + alpha[b]	8
Radiotherapy	5

[a] Staging was defined according to the sixth edition of the cancer staging manual of the American Joint Committee on Cancer
[b] Surgery with chemotherapy, surgery with radiotherapy, or surgery with chemoradiotherapy

previously indicated in question 2. Detailed information was obtained for 55 subjects, as patient data were unavailable from 1 of the 40 responding institutions. The backgrounds of the 55 patients are summarized in Table 1. The median age was 66 years (range, 33–80 years) and 12 subjects were older than 76 years of age. There were nine men and 46 women, and the breakdown of stage II, IIIA, and IIIB subjects was 25, 5, and 25 patients, respectively.

Therapeutic modalities and results

The therapeutic details are also shown in Table 1. CRT was performed in 25 (45%) subjects; surgery alone in 17 (31%) subjects; surgery and either RT, CTx, or CRT in 8 (15%) subjects; and RT alone in 5 (9%) subjects. Of the CRT regimens, 5-fluorouracil (5-FU) and cisplatin (CDDP; FP) was the most common regimen, used for 16 subjects; followed by 5-FU plus mitomycin C (MMC) and other regimens, used for 5 and 4 subjects, respectively (Table 2). The median dose of RT for CRT was 60 Gy (range, 36–70 Gy).

The complete response rate for CRT was 80% (20/25). With a median follow-up period of 2.7 years, the 3-year PFS and OS rates for all the 55 subjects were 67% and 91%, respectively; for the 25 CRT-only subjects the rates were 77% and 95%, and for the 17 surgery-only subjects the rates were 73 and 3%.

Table 2. Chemotherapy regimens used in the 25 patients who received chemoradiotherapy

FP	16
5-FU+MMC	5
5-FU	3
5-FU+NDP	1

FP, 5-fluouracil (FU) + cisplatin; MMC, mitomycin C; NDP, nedaplatin

Discussion

In our JCOG-CCSG survey, only 59 patients diagnosed with stages II/III ASCC met the subject criteria during the 5-year period in question, which means an average of fewer than 12 such patients per year in our group. Our data were collected from a retrospective survey and a limited number of institutions. This survey revealed that ASCC is quite rare in Japan. In Western countries, the incidence of ASCC has doubled in the past 30 years, from 1 to 2 per 100 000; therefore, the incidence of ASCC is expected to increase in Japan as well.

According to a survey conducted by the JSCCR in 2003, the percentage of ASCC patients who underwent surgery was 89% before 1989, 65% from 1990 to 1994, and 49% after 1995. In the present JCOG-CCSG survey, 52% (14/27) of the patients from 2000 to 2002, and 39% (11/28) of the patients from 2003 to 2004 underwent surgery. In addition, 20% of the responding institutions identified surgery as their main therapeutic modality as of May 2006. Based on these results, the proportion of patients who have undergone surgery has decreased gradually.

Recently, instead of surgery, about 70% of the institutions surveyed in the present study selected CRT as the treatment best suited to stages II/III ASCC. We think this is because some studies showing the effectiveness of CRT were published from Western countries. We summarize the phase III trials in Table 3.[12–15] Based on these phase III trials, combination therapy with 5-FU, MMC, and RT is considered to be the standard therapy for stages II/III ASCC in Western countries.

When compared to CDDP, the incidence of hemotoxicity is higher for MMC. Because the results of FP and RT combination therapy appeared so promising[10,16,17] until the interim results of the Radiation Therapy Oncology Group (RTOG)-9811 trial were published, FP and RT combination therapy was one of the recommended options in the practice guidelines published by the National Comprehensive Cancer Network (NCCN). Consequently, CDDP has often been used in clinical settings. In the present JCOG-CCSG study, FP was used in 16 of the 25 patients (64%) who received CRT and was the most common agent used in CRT.

In our present survey, the 3-year OS rate was considerably higher than that reported previously. We think this is due to the relatively short follow-up period, with the median follow-up period being only 2.7 years. If the follow-up period had been longer, the 3-year OS rate may have been

Table 3. Summary of phase III trials for locally advanced anal cancer

	No. of patients	Chemotherapy	RT	OS	*P* value	DFS	*P* value	LCR	*P* value	CFS	*P* value
EORTC[12]	52	None	45 Gy	56%[a]	–	58%[a]	0.05	50%[a]	0.02	40%[a]	0.002
	51	5-FU+MMC	+15–20 Gy	56%[a]		63%[a]		68%[a]		70%[a]	
ACT 1[13]	279	None	45 Gy	58%[b]	0.25	–		39%[b]	<0.01	–	
	283	5-FU+MMC	+15–25 Gy	65%[b]		–		61%[b]		–	
RTOG-8704[14]	145	5-FU	45 Gy+9 Gy	67%[c]	0.31	51%[c]	<0.01	66%[c]	<0.01	59%[c]	0.01
	146	5-FU+MMC		76%[c]		73%[c]		84%[c]		71%[c]	
RTOG-9811[15]	322	5-FU+MMC	45 Gy/25 Fr	84%[b]	0.13	68%[b]	0.33	75%[b]	0.19	90%[b]	0.04
	312	5-FU+CDDP	+10–14Gy	76%[b]		62%[b]		69%[b]		83%[b]	

EORTC, European Organization for Research and Treatment of Cancer; ACT, Anal Cancer Trial; RTOG, Radiation Therapy Oncology Group; CDDP, cisplatin; RT, radiotherapy; OS, overall survival; DFS, disease-free survival; LR, local-regional control; CFS, colostomy-free survival
[a]5 Years
[b]3 Years
[c]4 Years

lower, because our 3-year PFS rate was about the same as that previously reported in other studies.

In conclusion, even though our study was conducted retrospectively and some results are still preliminary in nature, this survey is important because only a limited amount of information on this subject has previously been reported in Japan. Although CRT was not the standard therapy for stages II/III ASCC in Japan from 2000 to 2004, a consensus now appears to be growing and the JCOG-CCSG intends to conduct a clinical trial in the near future on a new combination CRT regimen for the express purpose of establishing a new standard that is more effective than the current therapy.

Conflict of interest statement

No author has any conflict of interest.

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References

1. Jemal A, Siegel R, Ward E, et al. (2006) Cancer statistics. CA Cancer J Clin 56:106–130
2. Sameshima S, Sawada T, Nagasako K (2005) Squamous cell carcinoma of anus and carcinoma in association with anal fistula in Japan, multi-institutional registration. J Jpn Soc Coloproctol 58: 415–421
3. Rousseau DL Jr, Thomas CR Jr, Petrelli NJ, et al. (2005) Squamous cell carcinoma of the anal canal. Surg Oncol 14:121–132
4. Johnson LG, Madeleine MM, Newcomer LM (2004) Anal cancer incidence and survival: the surveillance, epidemiology, and end results experience, 1973–2000. Cancer 101:281–288
5. Palefsky JM (1994) Anal human papillomavirus infection and anal cancer in HIV-positive individuals: an emerging problem. AIDS 8:283–295
6. Pintor MP, Northover JM, Nicholls RJ (1989) Squamous cell carcinoma of the anus at one hospital from 1948 to 1984. Br J Surg 76:806–810
7. Schraut WH, Wang CH, Dawson PJ, et al. (1983) Depth of invasion, location, and size of cancer of the anus dictate operative treatment. Cancer 51:1291–1296
8. Leichman L, Nigro N, Vaitkevicius VK, et al. (1985) Cancer of the anal canal. Model for preoperative adjuvant combined modality therapy. Am J Med 78:211–215
9. Doci R, Zucali R, La Monica G, et al. (1996) Primary chemoradiation therapy with fluorouracil and cisplatin for cancer of the anus: results in 35 consecutive patients. J Clin Oncol 14:3121–5
10. Peiffert D, Seitz JF, Rougier P, et al. (1997) Preliminary results of a phase II study of high-dose radiation therapy and neoadjuvant plus concomitant 5-fluorouracil with CDDP chemotherapy for patients with anal canal cancer: a French cooperative study. Ann Oncol 8:575–581
11. Sischy B, Doggett RL, Krall JM, et al. (1989) Definitive irradiation and chemotherapy for radiosensitization in management of anal carcinoma: interim report on Radiation Therapy Oncology Group study no. 8314. J Natl Cancer Inst 81:850–856
12. Bartelink H, Roelofsen F, Eschwege F, et al. (1997) Concomitant radiotherapy and chemotherapy is superior to radiotherapy alone in the treatment of locally advanced anal cancer: results of a phase III randomized trial of the European Organization for Research and Treatment of Cancer Radiotherapy and Gastrointestinal Cooperative Groups. J Clin Oncol 15:2040–2049
13. UKCCCR Anal Cancer Trial Working Party (1996) Epidermoid anal cancer: results from the UKCCCR randomised trial of radiotherapy alone versus radiotherapy, 5-fluorouracil, and mitomycin. UKCCCR Anal Cancer Trial Working Party. UK Co-ordinating Committee on Cancer Research. Lancet 19:1049–1054