제61차
한국췌장외과연구회

일시: 2019년 9월 28일 (토) 10:00 - 18:00

장소: 충북대학교병원 호흡기센터 9층 직지홀

주최: 한국췌장외과연구회, 한국간담췌외과학회 대전충청지회

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Program

15:30-17:00 Dilemmas in treating postoperative complications of pancreatectomy part II : Bleeding associated with POPF after PD — 최성호(성균관의대), 윤성수(영남의대)

15:30-15:50 Role of interventional radiologists in saving patients with bleeding — 40
윤창진(서울의대)

15:50-17:00 Case presentation — 42
이승재(건양의대)

Q1. Optimal approach for sentinel bleeding

Q2. Indications of intervention/reoperation

Q3. What kind of reoperation: external pancreatic drainage/re-anastomosis/ completion pancreatectomy

Q4. Portal vein obliteration at the time of embolization of common hepatic artery : stent or not

Panel Discussion

이희성(이화의대), 송기병(울산의대), 권형준(경북의대), 윤창진(서울의대)

17:00-17:50 Case Discussion — 류동희(충북의대), 허진석(성균관의대)

17:00-17:10 An obstrcutive bezoar of the small bowl caused by pancreatic stent migration after pancreatoduodenectomy — 46
김준엽(서울의대)

17:10-17:20 Natural History of IPNB — 48
최유진(서울의대)

17:20-17:30 Severe intestinal edema after SMV resection in patients with colon cancer invading the pancreas and SMV tributaries — 49
박대준(이화의대)

17:30-17:40 Marginal ulcer after PD — 51
박예종(울산의대)

17:40-17:50 Q&A

17:50-18:00 공지사항 및 폐회사
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제61차 한국췌장외과연구회

SMA Approach and Mesopancreas Excision (I)

Moderator

김선회(국립암센터), 조철균(전남의대)

◈ 연/자/소/개 Curriculum Vitae

한성식

국립암센터

학 력

1990 - 1996	서울대학교 의과대학 의학과
2000 - 2005	서울대학교 대학원 의학과 대학원(석사)
2005 - 2008	서울대학교 의과대학 대학원 의학과 대학원(박사)

경 력

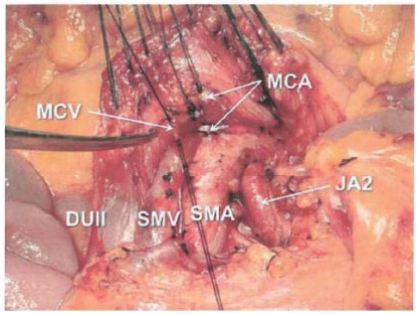
1996 - 1997	서울대병원 인턴
1997 - 2001	서울대병원 레지던트
2004 - 2006	서울대병원 전임의
2006 -	국립암센터 간암센터 의사직
2012 -	국립암센터 외과 의사직
2012 - 2013	University of California, San Francisco(미국) 장기연수
2016 -	국립암센터 NST 위원장
2019 -	국립암센터 간담도췌장암센터 센터장

Introduction and issues

한성식 국립암센터

SMA Approach

- Artery First Approach
  - 1981 by Pf. Nakao (Isolated pancreatectomy)
  - Approach from the mesentery of the jejunum (mesenteric approach)
  - En-bloc resection using a non-touch isolation technique

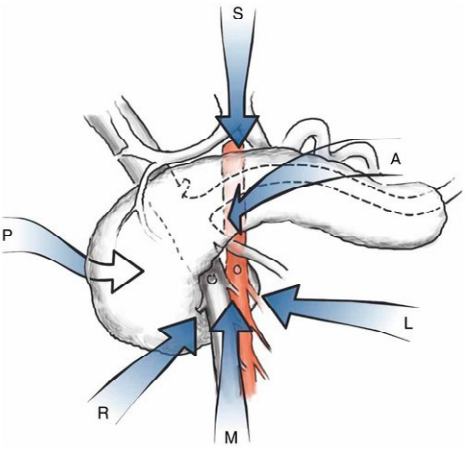


Isolated Pancreatectomy for Pancreatic Head Carcinoma Using Catheter Bypass of the Portal Vein

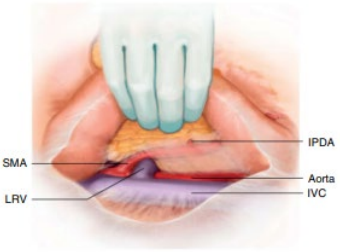
A. Nakao, H. Takagi
Department of Surgery II, Nagoya University School of Medicine, Nagoya, Japan

(Hepatogastroenterology, 1993)

Modifications of SMA approach

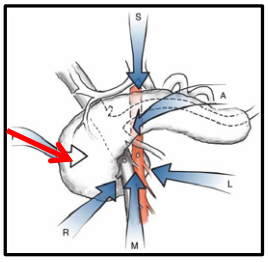


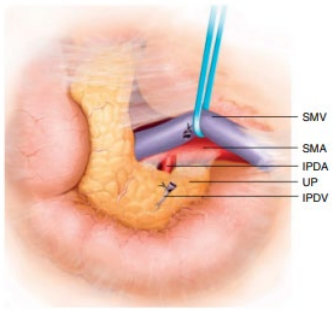
(Br J Surg 2012; 99: 1027–1035)



Posterior approach

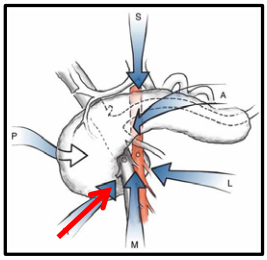
By Kocherization

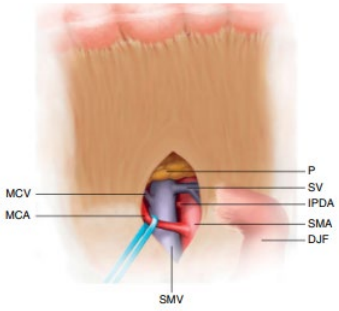




(Right) Medial uncinate approach

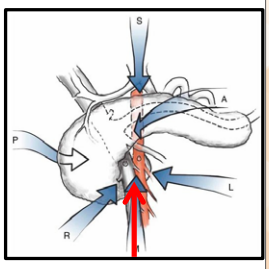
By Kocherization and mobilization of the duodenojejunal flexure

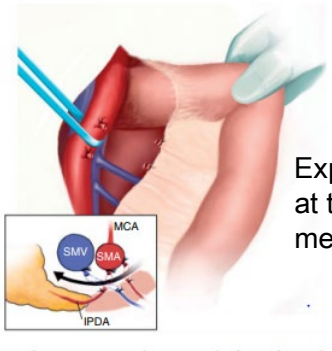




Inferior infracolic approach

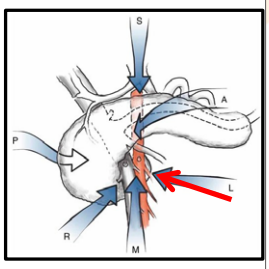
After dividing the peritoneum to the right of the duodenojejunal flexure in the transverse mesocolon

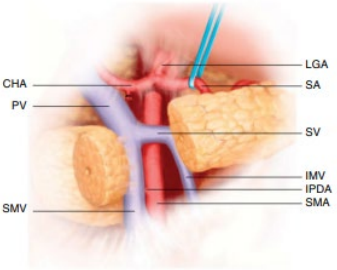




Left posterior approach

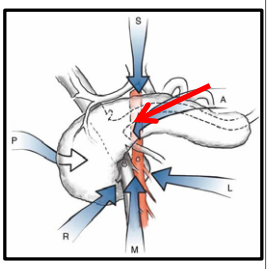
Exposing the first and second jejunal arteries at their origin on the SMA in the transverse mesocolon

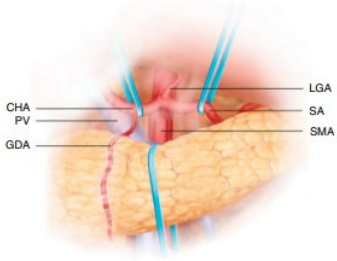




Inferior supracolic approach (anterior approach)

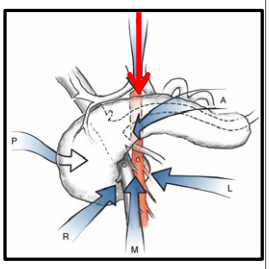
After division of the neck of the pancreas





Superior approach

Demonstrating the celiac axis and SMA in the lesser sac above the neck of the pancreas



Artery First Approach

- Suggested Benefits
  - Reduces intraoperative blood loss d/t early ligation of IPDA
  - Determines resectability before reaching the point of no return
  - Facilitates complete oncological clearance (R0)
    → improved survival

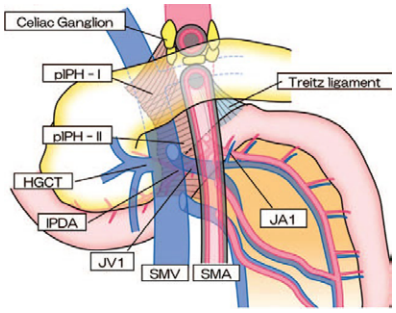
Mesopancreas excision

Pancreatoduodenectomy With Systematic Mesopancreas Dissection Using a Supracolic Anterior Artery-first Approach

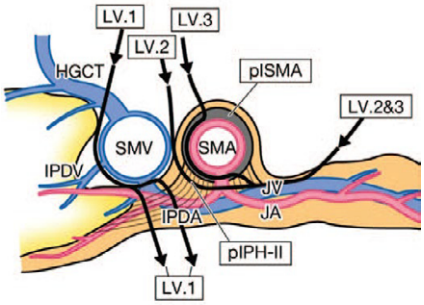
Yosuke Inoue, MD, PhD, Akio Saiura, MD, PhD,* Ryuji Yoshioka, MD,† Yoshihiro Ono, MD, PhD,* Michiro Takahashi, MD, PhD,* Junichi Arita, MD, PhD,* Yu Takahashi, MD, PhD,* and Rintaro Koga, MD‡*

(Ann Surg 2015)

Mesopancreas :
plPh-I, plPh-II, IPDA, jejunal arteries, jejunal veins, lymph nodes



Systemic mesopancreas dissection



Terminology

- Artery first approach - order
- Mesopancreas excision using artery first approach
  - Complete mesopancreas resection and proximal jejunum excision → oncologic benefit
  - Surgical extent

Issues

1. What is the purpose of this technique?
   - Determines resectability before reaching the point of no return
   - Reduces intraoperative blood loss
   - Complete local control by mesopancreas dissection

Issues

1. What is the purpose of this technique?
   - Complete local control by mesopancreas dissection
   - New terminology
     "**Proximal Peri-SMA Dissection**"

Issues

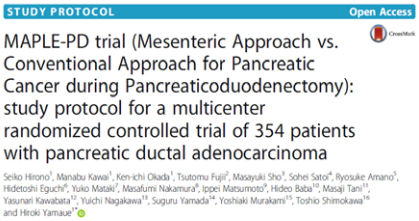
2. Extent of dissection in terms of the area and depth
   - Basic knowledge of the anatomy of proximal mesenteric vasculature
   - Nerve (angle, length), LN (#14), Ja 1,2, Etc
   - Based on the local recurrence cases

Issues

3. No standard technique
   - Supracolic vs. Infracolic
   - Left vs. Right
   - Middle colic a. division or not

Issues

4. No clear oncologic benefit (no RCT)


STUDY PROTOCOL Open Access

MAPLE-PD trial (Mesenteric Approach vs. Conventional Approach for Pancreatic Cancer during Pancreaticoduodenectomy): study protocol for a multicenter randomized controlled trial of 354 patients with pancreatic ductal adenocarcinoma

Seiko Hirono[1], Manabu Kawai[1], Ken-ichi Okada[1], Tsutomu Fujii[2], Masayuki Sho[3], Sohei Satoi[4], Ryosuke Amano[5], Hidetoshi Eguchi[6], Yuko Mataki[7], Masafumi Nakamura[8], Ippei Matsumoto[9], Hideo Baba[10], Masaji Tani[11], Yasunari Kawabata[12], Yuichi Nagakawa[13], Suguru Yamada[14], Yoshiaki Murakami[15], Toshio Shimokawa[16] and Hiroki Yamaue[1]*

Issues

5. Possibility of MIS
   - Will be presented by Pf. 김송철

◈ 연/자/소/개 Curriculum Vitae

김재리

서울의대

학 력

2005 - 2011	대구가톨릭대학교 의과대학 (학사)
2015 - 2017	서울대학교 의과대학 외과학 (석사)
2017 -	서울대학교 의과대학 외과학 (박사 재학 중)

경 력

2011 - 2012	서울대학교병원 외과 인턴
2012 - 2016	서울대학교병원 외과 레지던트
2016 - 2019	서울대학교병원 간담췌외과 임상강사

학회 활동

2012 -	대한외과학회 정회원
2014 -	한국간담췌외과학회 정회원
2014 -	아시아태평양간담췌외과학회 (APHPBA) 정회원
2014 -	국제간담췌외과학회 (IHPBA) 정회원
2014 -	대한내시경복강경학회 정회원

Anatomy of proximal mesenteric vessels

김재리 서울의대

췌십이지장절제술은 1935년 처음으로 보고된 이후 췌두부암의 주요 수술로 자리잡았다. 본 수술에 관련한 여러 가지 세부 술기들이 활발히 연구되어져 왔으며, 이 중 최근 가장 활발하게 논의되고 있는 술기 중 하나는 'Artery-first approach' (superior mesenteric artery[SMA]-first approach)라고 할 수 있을 것이다. 'Artery-first approach'는 절제가능성에 대한 조기평가, negative margin 확보 용이, 수술 중 출혈량 감소 등의 장점을 가진 것으로 알려져 있다. 이 과정에서, 췌두부암의 완치 가능성을 향상시키기 위해 proximal mesenteric vessels을 다수 포함하는 영역인 mesopancreas의 완전한 박리가 필요하다. (Total mesopancreas excision; TMPE) 이러한 복잡한 술기는 그 자체로 수행 난이도가 높을 뿐 아니라 이에 따르는 수술 후 부작용 등도 반드시 고려해야 하므로, 해당 영역에 대한 세밀한 해부학적 지식은 필수적이라고 할 수 있다.

Mesenteric vessels의 branching pattern의 경우, 그 pattern이 복잡할 뿐만 아니라 환자마다 해부학적 변이가 매우 다양하다. 하지만 영상의학 기술이 점차 발전함에 따라 0.5~3mm 간격의 thin-section image 및 다각도에서 관찰 가능한 vessel reconstruction system 등 여러가지 방법으로 혈관의 해부학적 구조를 자세하게 관찰할 수 있게 되었다.

SMA의 경우, anterior inferior pancreaticoduodenal artery (AIPDA)와 posterior inferior pancreaticoduodenal artery (PIPDA)가 합쳐진 inferior pancreatoduodenal artery (IPDA)와 first jejunal artery와의 관계를 아는 것이 가장 중요하다. Cadaver 및 환자를 대상으로 진행한 과거의 여러 연구에서, 약 70%의 환자는 IPDA와 first jejunal

artery가 common trunk를 형성하고, 약 20%의 환자는 IPDA와 first jejunal artery가 각각 SMA에서 기시함이 알려져 있다. 또한 약 10%의 환자는 IPDA가 존재하지 않고 AIPDA, PIPDA, first jejunal artery가 각각 따로 SMA에서 분지하는 형태이다.

Mesenteric vein의 경우 그 variation이 artery보다 더 심하여 연구가 쉽지 않다. Superior mesenteric vein (SMV)의 경우, first jejunal vein 및 inferior pancreaticoduodenal vein (IPDV)의 관계 및 SMA와 first jejunal vein의 위치 관계를 알 필요가 있다. 또한, vein의 경우 과거의 연구들을 살펴보면 약 65%~95%가 first jejunal trunk를 형성하게 되며 이 trunk는 2개에서 6개의 mesenteric veins가 합쳐지는 형태를 가진다. 수술 전 이러한 trunk의 존재 유무를 파악하는 것은, 수술 중 mesenteric vein을 어디까지 결찰하였을 때 수술 후 congestion이 발생할 수 있느냐 하는 것을 판단하는 관점에서 매우 중요하다. 현재까지 진행된 연구에서 여러가지 케이스가 보고되어 있기는 하나 아직 정확하게 정해진 가이드라인은 없으며 수술자의 경험과 수술 중 장의 색깔 변화 양상 등이 중요한 근거가 될 수 있겠다.

본 발표에서는 지난 십 수년 간 발표되었던 proximal mesenteric vessels의 해부학적 구조에 대한논문들을 다시 한 번 정리하고 artery-first approach 에 어떤 방식으로 적용될 수 있을지, 또한 수술 후 합병증을 최소화하기 위해서 어떤 점을 유의해야 하는지에 대해 알아보고자 한다.

◈ 연/자/소/개 Curriculum Vitae

Yasunari Kawabata

Shimane Univ.

EDUCATION

1993	M.D., magna cum laude, Shimane Medical University
2011	Ph.D. (Dr. of Medical Science), Shimane University

CAREER

2006 - 2012	Assistant Professor, Department of Digestive and General Surgery, Shimane University
2012 - 2013	Visiting professor and clinical fellow, Department of General-,Visceral- and Transplant Surgery, Heidelberg University. Heidelberg (Prof. M,W Büchler)
2013 - 2013	Clinical fellow, Digestive and Minimally Invasive Surgery, Nouvel Hôpital Civil, University of Strasbourg, Strasbourg (Prof. P Pessaux)
2013 - 2015	Assistant Professor, Department of Digestive and General Surgery, Shimane University Faculty of Medicine, Izumo
2015 -	Director and Vice president of Hepatobiliary pancreatic surgery Division, Shimane University Hospital. Associate Professor, Department of Digestive and General Surgery, Shimane University Faculty of Medicine, Izumo

SPECIAL NOTE

Hepatobiliary pancreatic disorder(pancreatic cancer, biliary tract cancer, chonic pancreatitis)
Biomarker of biliary tract cancer, especially Ampullary carcinoma, Surgical Anatomy

Concept of TMPE and SMA approach

Yasunari Kawabata Shimane Univ.

Surgical anatomy

1. Meso-pancreatoduodenum

The first jejunal artery (FJA) arises from the left side of the SMA and branches the inferior pancreaticoduodenal artery (IPDA), which runs towards the thirds and fourth portion of the duodenum and proximal jejunum as well as the head of the pancreas. In addition, the third and fourth portions of the duodenum and proximal jejunum form a common mesentery, i.e., the meso-pancreatoduodenum, through the back of the SMA. Namely, the meso-pancreatoduodenum is dominated by the FJA including IPDA and forms common mesentery with jejunal mesentery.

SMA-first approach

Total meso-pancreatoduodenum excision with pancreaticoduodenectomy (tMPDe)

The tMPDe technique is a left posterior approach as in the SMA-first approach.

The retroperitoneum is opened at the left side of the duodenojejunal flexure, and the pancreas is mobilized together with the SMA so that the anterior surface of the aorta, inferior vena cava, and left renal vein are completely exposed in an effort to secure the posterior surgical margin. For identifying the SMA, we lift the transvers mesocolon toward the cranial side, stretch the upper jejunal mesentery to the left caudal side, and then trace the middle colic artery (MCA) and FJA up to the SMA. The left semicircle dissection of soft connective tissue around the SMA, including lymph nodes, is carried

out from the origin of the MCA up to that of the SMA. Although a complete dissection of the nerve plexus around the SMA (PLsma) can be done, we should preserve the nerve plexus at the left aspect of the SMA as much as possible under the strict guidance of frozen section analysis for the prevention of postoperative persistent diarrhea. To facilitate this step, we expose the anterior aspect of the SMV widely in a sideways direction at the origin of the mesocolon. At this step of the procedure, the origin of the common trunk of the FJA and IPDA is identified on the left posterior aspect of the SMA. Even when the IPDA branches directly from the SMA, its origin can be identified with certainty. If a wide infiltration of the tumor to the left aspect of the SMA is confirmed histologically, the operative procedure is terminated at this point. The next step is the right semicircle dissection of the lymph nodes together with preservation of the nerve plexus around the SMA (PLsma) as much as possible under the strict guidance of frozen section analysis. The right side exfoliation of the PLsma should be perform to secure histologically tumor-free resection (R0) when cancer invasion to the PLsma is suspected. These processes can be performed without dividing any supplying blood vessels or organs before reaching the point of no return.

After histological confirmation of R0 dissection around the SMA, ligation and division of the FJA can be done and the SMA-first approach in the tMPDe procedure is completed.

The contraindication of this procedure is the presence of calcification in the SMA because surgical manipulation may cause serious vascular injury-related complications in such patients.

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SMA Approach and Mesopancreas Excision (II)

Moderator

최인석(건양의대), 이현국(이화의대)

◈ 연/자/소/개 Curriculum Vitae

Akio Saiura

Juntendo Univ.

EDUCATION & CAREER

1993	Resident, the University of Tokyo Hospital
1997	Assistant, Second Department of Surgery, the University of Tokyo Hospital
2002	Assistant Professor, Artificial Organ and Transplantation Division, the University of Tokyo Hospital
2003	Department of Surgery, Tokyo Metropolitan Bokutoh Hospital
2003	Staff, Department of Gastroenterological Surgery, Cancer Institute Hospital
2008	Director of the Hepato-Biliary-Pancreatic Cancer Division, Department of Gastroenterological Surgery, Cancer Institute Hospital
2019	Professor, Department of Hepato-Biliary-Pancreatic Surgery, Juntendo University Graduate School of Medicine

Qualifications

The Japan Surgical Society, Board Certified Instructor
The Japanese Society of Gastroenterology, Board Certified Gastroenterologist
The Japanese Society of Hepato-Biliary-Pancreatic Surgery, Board Certified Instructor

Professional Memberships

The Japan Surgical Society
The Japanese Society of Gastroenterology
The Japanese Society of Gastroenterological Surgery, Councilor
The Japan Surgical Association, Councilor
The Japanese Society of Hepato-Biliary-Pancreatic Surgery, Councilor

Meso-pancreas excision by supra-colic SMA approach

Akio Saiura Juntendo Univ.

Introduction

Dissection around superior mesenteric artery (SMA) is the key point during pancreaticoduodenectomy. Various SMA-first or artery-first approaches have been reported. We developed artery-first approach using supra-colic anterior approach tailoring the dissection around SMA.

Method

Tailoring dissection around SMA using anterior approach

The pancreas head is connected to retroperitoneum by inferior pancreaticoduodenal artery (IPDA) and nerve plexus of the pancreas head (plPh). In our approach, SMA/plPh is dissected from the ventral side. We adjust the dissection of the nerve plexus around SMA (plSMA) into three levels. Level1 dissection is a simple division around the SMA without lymph node or nerve plexus dissection which is indicated to premalignant or low grade malignant tumor. Level2 (LV2) dissection is an en bloc lymph node dissection with the second plexus of the nerve plexus of the pancreas head (plPh2) preserving the plSMA. This procedure is most widely applied and the standard dissection in patients with malignant tumor in the pancreas head. Level3(LV3) dissection is LV2 dissection plus hemicircumferencial plSMA, which is mainly performed to borderline resectable pancreatic head cancer (BRPC). For BRPC abutting the SMA (BR-SMA) up to 180 degrees, plSMA resection would often need

to be extended more than 180 degrees, although total circumferential resection was strictly avoided, and such dissection was defined as beyond LV3 (B-LV3). In patients with pancreatic cancer, LV2, LV3 and B-LV3 were indicated. Our approach has several advantages, opened view, correspondence to in situ location, common landmark and avascular field. These points can facilitate early judgement of tumor status and dissection levels.

Results

We analyzed the result of our approach between January 2008 and June 2015, consecutive 249 patients with pancreatic cancer underwent PD using anterior approach. Among them, 4 patients were excluded due to lost follow-up or incomplete clinical data and 12 due to pathology other than ductal adenocarcinoma. As a result, 233 patients were subject of analysis. The dissection extent (LV2, LV3, or B-LV3) was determined based on these preoperative findings with some modification by intraoperative findings. The data among the three groups were analyzed. In 233 patients, 158 patients had resectable-PC, 75 had BR-PC. LV2, LV3, and B-LV3 dissection was performed in 77, 115, 41 patients, respectively.

Surgical duration was significantly shorter in patients in LV2 group than B-LV3 (492 vs. 544 min., $p = 0.0016$). Amount of blood loss and incidence of blood transfusion was not significantly different among groups. The incidence of SMV-PV resection was significantly higher in LV3 or B-LV3 group than LV2. Incidence of postoperative complication greater than C-D grade 2, POPF≧ grade B , DGE and postoperative hospital stay were not significantly different among groups. There was no 90-days mortality.

Conclusions

Supracolic anterior approach is a feasible procedure tailoring the extent of dissection around SMA for pancreatic cancer.

References

1. Nakao A, Takagi H. Isolated pancreatectomy for pancreatic head carcinoma using catheter bypass of the portal vein. Hepatogastroenterology 1993; 40: 426-429.
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4. Chang DK, Johns AL, Merrett ND et al. Margin clearance and outcome in resected pancreatic cancer. J Clin Oncol 2009; 27: 2855-2862.
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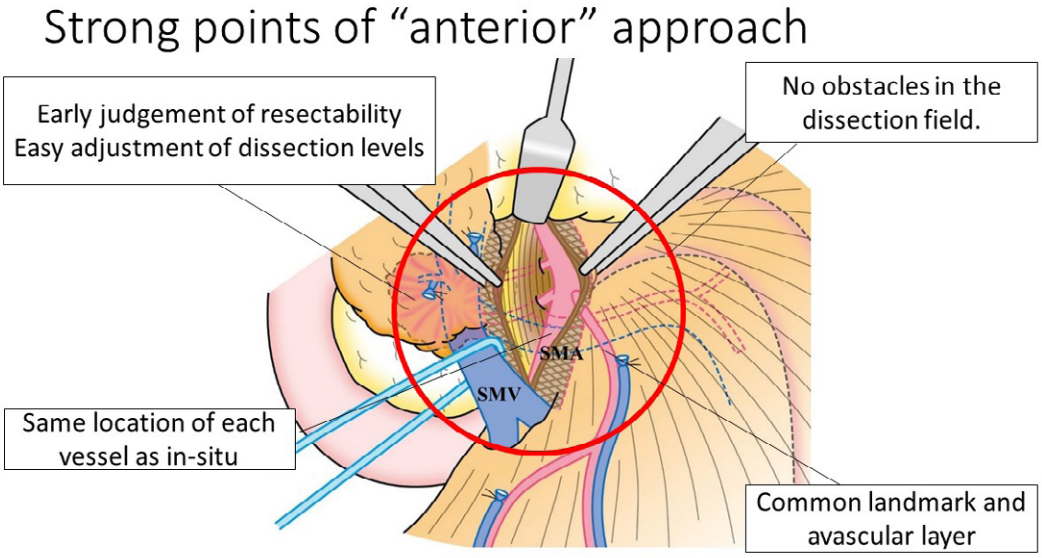
Figure Legends

Figure 1. Conceptual schema of incremental dissections



◈ 연/자/소/개 Curriculum Vitae

김송철

울산의대

학 력

1980 - 1987	M.D. College of Medicine, Seoul National University
1993 - 1995	M.S. Graduate School of Medicine, Seoul National University
1995 - 1999	Ph.D.Graduate School of Medicine, Seoul National University

경 력

2012 -	Chief Director, Asan Institute of Biomedical Engineering Technology and Development
2012 - 2018	Chief Director, Asan Robotic Surgery Center
2016 -	Chief Director, Billary Track & Pancreatic Cancer Center
2018 -	Chief Director, Asan Institute of Convergence Science and Technology (AMIST)

학회 활동

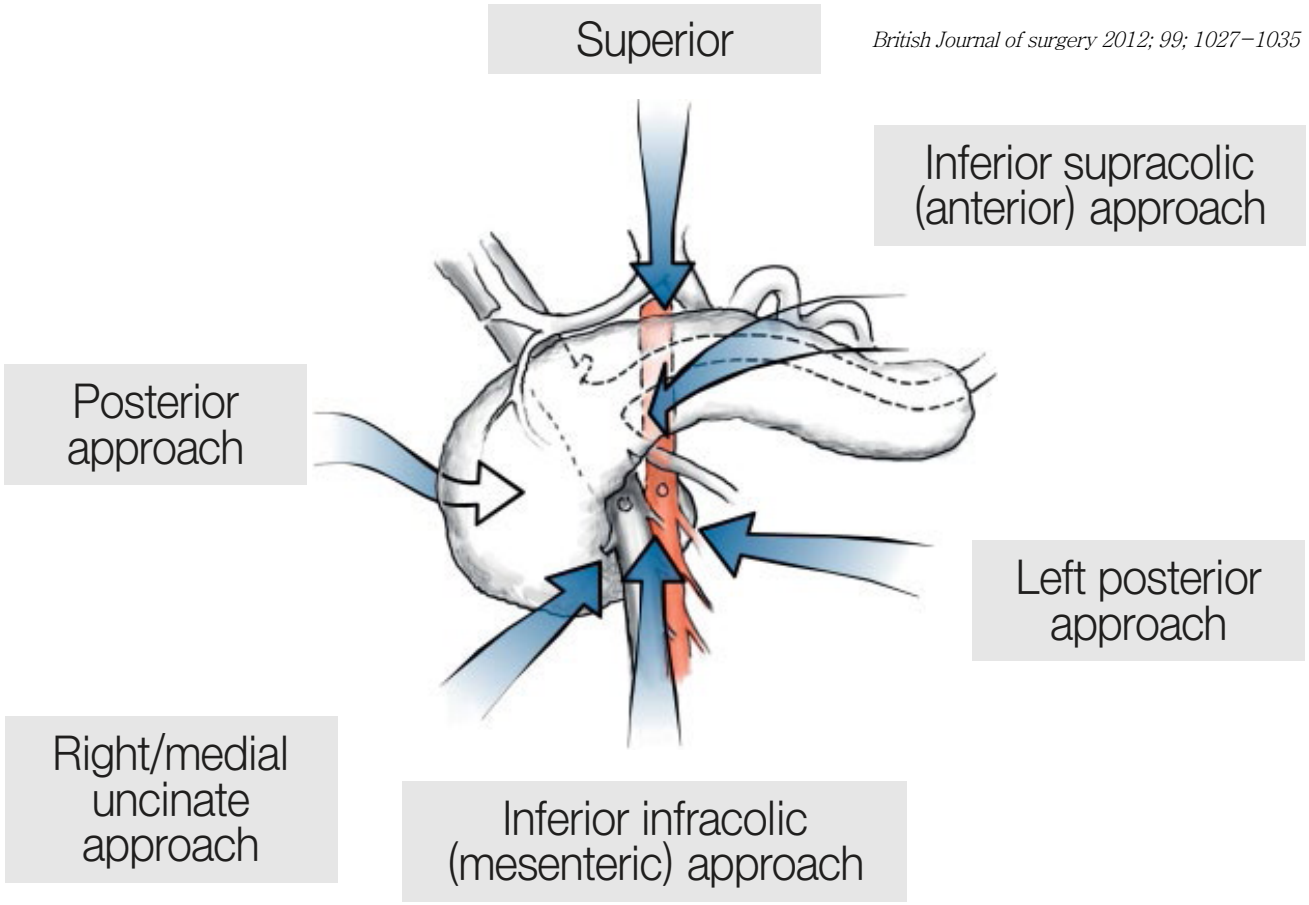
Korean Surgical Society
Korean Transplantation Society
Korean Vascular Surgical Society
Korean Society of Medical Biochemistry and Molecular Biology
International Association of Pancreatology
Korean HBP surgery
Korean Endoscopy and Laparoscopic Surgery
Korean Pancreas Surgery Club (Former president)
European Association for Endoscopic Surgery
Founding member of Interrnational Minimal Invasive Pancreatic Surgery
Korean Minimal Invasive Pancreas Surgery (k-MIPS) (president)

SMA approach: How I do it

김송철 울산의대

'Artery-first' approach for pancreas cancer has developed for early determination of resectability before an irreversible step in technique of pancreatoduodenectomy (PD). Since non-resectability is now determined by involvement of the superior mesenteric artery (SMA), this approach is arousing surgeon's concern. Six approaches are well known for this approach in technique : posterior approach, medial uncinate approach, inferior infracolic or mesenteric approach, left posterior approach, inferior supracolic approach and superior approach.

These six approaches can provide a range of options for the early determination of arterial involvement, depending on the location and size of the tumour, and before the 'point of no return'. Whether these approaches will achieve an increase in the proportion of patients with negative margins, improve locoregional control and increase long-term survival has yet to be determined. In this session, I will present the some merits of this artery first approach and how I do it.



British Journal of surgery 2012; 99; 1027–1035

◈ 연/자/소/개 Curriculum Vitae

Seiko Hirono

Wakayama Univ.

EDUCATION

2000	M.D., Wakayama Medical University, School of Medicine, Japan
2009	Ph.D., (Dr. of Surgery), Wakayama Medical University, School of Medicine, Japan

CAREER

2000 - 2002	Clinical Trainee, Second Dept. of Surgery, Wakayama Medical University
2002 - 2004	Medical staff, Surgery Dept, Naga Public Hospital
2004 - 2008	Graduate student, Second Dept. of Surgery, Wakayama Medical University (Basic research in Cancer Institute from April, 2005 to September, 2007)
2008 - 2012	Surgical staff, Second Dept. of Surgery, Wakayama Medical University
2013 - 2014	Assistant Professor, Second Dept. of Surgery, Wakayama Medical University
2014 -	Associate Professor, Second Dept. of Surgery, Wakayama Medical University

SPECIAL NOTE

2015	Pancreas Research Foundation of Japan
2015	JDDW, Poster of Distinction
2018	KDDW 2018 The 2nd Joint Session between KDDW-TDDW-JDDW Rising Star Program
2019	Public Trust Surgery Research Fund
2019	Surgery Research Fund of the 106th Annual Congress of Japan Surgical Society
2019	Kobayashi Foundation for Cancer Research
2019	The Uehara Memorial Foundation
2019	The 10th International Pancreatic Cancer Conference, 2017 Merit Award

MAPLE trial and technical standardization

Seiko Hirono Wakayama Univ.

Mesenteric approach, first suggested by Nakao et al. in 1993, is an artery-first approach during pancreaticoduodenectomy (PD) for pancreatic ductal adenocarcinoma (PDAC). Our retrospective study first showed the surgical and oncological benefits of the mesenteric approach for patients with PDAC compared with the conventional approach. To confirm the results of our retrospective study and to evaluate the clinical benefits of the mesenteric approach for patients with PDAC, we are conducting a randomized, controlled multicenter trial comparing the oncological and surgical outcomes between the mesenteric and conventional approaches during PD for patients with PDAC (Mesenteric Approach vs. Conventional Approach for Pancreatic Cancer during Pancreaticoduodenectomy [MAPLE-PD] trial). The primary endpoint of MAPLE-PD trial is overall survival (OS) after surgery. We calculated that this study required 354 patients to show a difference of OS between mesenteric and conventional approaches (accrual time is 2 years and follow-up is 2 years). Before the start of the MAPLE-PD trial, we held three consensus meetings to determine the details of the operative techniques for both groups by observing and discussing several operative videos to ensure standardization of the interventions in all institutions. The MAPLE-PD trial was opened in January 2018, and the completion date is estimated to be December 2021.

◈ 연/자/소/개 Curriculum Vitae

한성식

국립암센터

학 력

1990 - 1996	서울대학교 의과대학 의학과
2000 - 2005	서울대학교 대학원 의학과 대학원(석사)
2005 - 2008	서울대학교 의과대학 대학원 의학과 대학원(박사)

경 력

1996 - 1997	서울대병원 인턴
1997 - 2001	서울대병원 레지던트
2004 - 2006	서울대병원 전임의
2006 -	국립암센터 간암센터 의사직
2012 -	국립암센터 외과 의사직
2012 - 2013	University of California, San Francisco(미국) 장기연수
2016 -	국립암센터 NST 위원장
2019 -	국립암센터 간담도췌장암센터 센터장

Proposal
: Proximal Peri-SMA Clearance

한성식 국립암센터

한국췌장외과연구회
Korean Pancreas Surgery Club

제61차 한국췌장외과연구회

가족성 췌장암의 등록 사업

Moderator

김형철(순천향의대)

◈ 연/자/소/개 Curriculum Vitae

박준성

연세의대

EDUCATION

1991 - 1997	Yonsei University College of Medicine (M.D)
2001 - 2006	Yonsei University (Master)
2007 - 2011	Yonsei University (Ph.D)

POST-GRADUATING TRAINING

1997 - 1998	Internship, Severance Hospital, Yonsei University
1999 - 2002	Residency, Severance Hospital, Yonsei University
2002	Korean National Board of Surgery

PROFESSIONAL APPOINTMENTS

2007 -	Professor of Surgery, Gangnam Severance Hospital, Yonsei University
2012 - 2014	Visiting Professor, Pancreas Cancer Research, Department of Surgery University of Minnesota, MN, USA
2012 - 2016	Associate Professor of Surgery, Gangnam Severance Hospital, Yonsei University

Initiation of Familiar Pancreatic Cancer Project in Korea

박준성 연세의대

가족성 췌장암은 1987년에 처음으로 문헌에 보고 되었으며, 1989년 보고에 의하면 대조군의 0.6%, 췌장암 환자의 7.8%에서 췌장암의 가족력이 있어 췌장암이 가족성 경향이 있다고 보고하였다. 전체 췌장암 환자 중에 유전적 요인이 있다고 의심되는 비율은 5-16%로 추정하고 있으나, 가족성 췌장암의 기준을 엄격히 적용한 전향적 연구 결과에 의하면 1.9-3.5%로 보고하였다. 가족성 췌장암은 교과서적인 유전종양증후군 없이 직계가족(first degree relatives) 2명 이상에서 췌장암으로 확인된 경우를 일반적으로 받아들이고 있다. 직계가족에 췌장암 환자가 2명 있는 경우와 3명 있는 경우 췌장암의 위험도는 각각 6, 14-32배로 알려져 있다

가족성 췌장암의 원인으로 BRCA2 변이가 가족성 췌장암의 발견되는 가장 흔한 원인 유전자이지만 우리나라 췌장암 환자 110명을 분석한 연구에서 가족성 췌장암은 8명(7.2%)이었으며 BRCA2 유전자 변이를 분석한 총 60명의 환자 중에서 BRCA2 유전자 변이는 단 1명도 발견되지 않아 한국인에서는 별로 중요하지 않다고 보고하여 서구와는 다른 유전학적 원인이 있을 것으로 생각된다.

가족성 췌장암의 고위험군에서는 췌장암 검진의 시기와 간격을 정하는 것이 아직까지 정해져 있지 않아 한국의 실정에 맞는 국가 검진의 간격을 정하는 것이 중요하다고 사료된다.

◈ 연/자/소/개 Curriculum Vitae

김덕우

서울의대

학 력

1992 - 1998	서울대학교 의과대학 의학과
2001 - 2003	서울대학교 의학대학원 석사(외과학)
2005 - 2008	서울대학교 의학대학원 박사(외과학)

경 력

1998 - 2003	서울대학교병원 수련의, 전공의
2006 - 2007	서울대학교병원 외과 임상강사
2007 - 2008	분당서울대학교병원 외과 임상강사
2008 - 2018	분당서울대학교병원 외과 조교수, 부교수
2018 -	분당서울대학교병원 외과 교수

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암정복추진기획단 위원

Hereditary Colorectal Cancer : Experience of an Institutional Registry in SNUBH

김덕우 서울의대

Hereditary syndromes are the source of approximately 5% to 15% of overall colorectal cancer cases. Hereditary colorectal cancer is divided into two types: Lynch syndrome / hereditary nonpolyposis colorectal cancer (HNPCC), and cancers associated with hereditary colorectal polyposis, including familial adenomatous polyposis (FAP), Peutz-Jeghers syndrome (PJS), Juvenile polyposis (JP), and the recently reported hMutYH (MYH)-associated polyposis (MAP). Hereditary colorectal cancers have unique clinical features distinct from sporadic cancer because these are due to germline mutations of the causative genes; (i) early age-of-onset of cancer, (ii) frequent association with synchronous or metachronous tumors, (iii) frequent association with extracolonic manifestations.

Genetic testing and molecular screening are in use today and are becoming a critical part of routine patient care. Genetic testing for germline mutations is a team approach. With suspicion of a syndrome, and only after genetic counseling does the patient submit to genetic testing. Genetic testing must be properly interpreted, and the patient must be advised on appropriate therapy and surveillance. Once a germline mutation is found, other family members can elect to undergo genetic counseling and testing. Assessing at-risk patients for hereditary colon cancer is predicted to move from individual gene testing that is commonly performed today to whole exome or whole genome sequencing.

The management strategy for patients with hereditary colorectal cancer is quite different from that for sporadic cancer. Screening, genetic counseling, and surveillance for at-risk familial member are also important. A well-organized registry can plays a central role in the surveillance and management of families affected by hereditary colorectal cancers. The activities of hereditary tumor registry are registration of new patients with hereditary tumors, mutation screening of the genes responsible for a specific hereditary tumor, and surveillance of at risk relatives by presymptomatic genetic diagnosis. These activities are closely cooperated with cancer gene clinic in the hospital, which provide patients with the information of disease, genetic counseling, and the detailed management plan such as the schedule of colonoscopy examination, time of operation, and treatment plan for other family members.

In this review, we discuss the current guidelines for genetic testing and management of hereditary colorectal cancer and the related work and role of our institutional, focusing on the major syndromes: Lynch syndrome and adenomatous polyposis.

KPSC Since 2004
한국췌장외과연구회
Korean Pancreas Surgery Club

제61차 한국췌장외과연구회

Dilemmas in treating postoperative complications of pancreatectomy part II : Bleeding associated with POPF after PD

Moderator

최성호(성균관의대), 윤성수(영남의대)

◈ 연/자/소/개 Curriculum Vitae

윤창진

서울의대

학 력

1995	서울대학교 의과대학
1999 - 2002	서울대학교 의과대학 석박사

경 력

1996	서울대학교병원 인턴
1997 - 2002	서울대학교병원 영상의학과 전공의, 전임의
2003	서울아산병원 영상의학과 전임의
2004 -	분당서울대병원 영상의학과 교수

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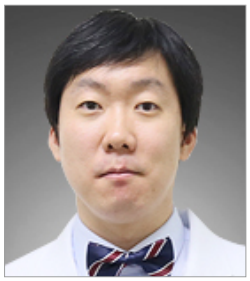
대한영상의학회 고시이사
대한인터벤션영상의학과 학술이사

Role of interventional radiologists in saving patients with bleeding

윤창진 서울의대

Bleeding after pancreaticoduodenal (PD) surgery is an uncommon but potentially fatal complication. Early hemorrhage (<24 hrs) results from inadequate sealed blood vessels, and requires surgical correction. Late hemorrhages may be a result of pseudoaneurysms or erosions in the hepatic, celiac, or splenic arteries. In recent years, interventional radiologic procedures such as selective arterial embolization or covered intraluminal stenting have been developed as a first-line approach for the treatment of delayed hemorrhage. In interventional treatment, the most frequently involved site is gastroduodenal stump and should be the first place to look for hemorrhagic complications after PD. Covered stenting should be considered first when it is technically possible and even in equivocal angiographic findings. Hepatic artery embolization can be safely performed when there is hepatic arterial variation and/or intrahepatic collateral routes. In addition, if a hemorrhage is associated with pancreatic fistula, percutaneous or endoscopic procedure should be considered to drain intraabdominal abscess.

◈ 연/자/소/개 Curriculum Vitae



이승재

건양의대

학 력

순천향 의과대학 학사
울산대 의과대학 석사

경 력

서울아산병원 인턴
서울아산병원 외과 레지던트
서울아산병원 간담도췌외과 임상강사
건양대학교병원 외과 조교수

Case presentation

이승재 건양의대

한국췌장외과연구회
Korean Pancreas Surgery Club

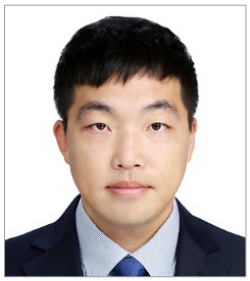
제61차 한국췌장외과연구회

Case Discussion

Moderator

류동희(충북의대), **허진석**(성균관의대)

◈ 연/자/소/개 Curriculum Vitae



김준엽

서울의대

학 력

2005 - 2011	인제대학교 의과대학
2011 - 2016	인제대학교 상계백병원 인턴, 전공의
2019	분당서울대학교병원 전임의

Case Discussion

An obstrcutive bezoar of the small bowl caused by pancreatic stent migration after pancreatoduodenectomy

김준엽 서울의대

2010년 3월 30일 pancreas head tumor로 pylorus preserving pancreaticoduodenectomy 시행 후 solid pseudopapillary neoplasm으로 진단되고 외래에서 경과관찰 하였으나 2011년 이후 follow up loss된 환자이다. 2019년 8월 25일 점심 식사 이후 발생한 상복부 통증으로 응급실 방문하였고 당시 생체징후는 안정적 이었으나, 신체검진에서는 팽창된 복부와 상복부 전반에 걸친 압통이 관찰됐다. CT에서 a-loop에 발생한 bezoar로 인한 small bowel obstruction 의심되는 상태로 외과에 의뢰됐다.

보존적 치료에도 반응 없어 수술적 치료를 하였다. CT와 같은 소견으로 blind stump에 perforation과 두개의 bezoar, pancreatic stone이 수술 중에 관찰됐다. 그 중 pancreaticojejunostomy에 이용한 catheter 주변으로 발생한 bezoar가 가장 큰 크기(4 cm)였다.

Natural History of IPNB

최유진 서울의대

◈ 연/자/소/개 Curriculum Vitae

박대준

이화의대

학 력

2005 - 2012	Sungkyunkwan University School of Medicine
2012	Medical Degree - Doctor of Medicine, Sungkyunkwan University School of Medicine
2018 -	Graduate School Sungkyunkwan University School of Medicine

경 력

2012 - 2013	Intern, Samsung Hospital, Samsung Medical Center
2013 - 2017	Resident, Department of Surgery, Samsung Hospital, Samsung Medical Center
2017 - 2019	Clinical fellow, Department of Surgery, Samsung Hospital, Samsung Medical Center
2019 -	Clinical Assistant Professor, HBP division, College of Medicine, Ewha Womans University

Severe intestinal edema after SMV resection in patients with colon cancer invading the pancreas and SMV tributaries

박대준 이화의대

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박예종

울산의대

학 력

2003 - 2009	서남의대 학사
2012 - 2014	울산의대 석사
2017 -	울산의대 박사

경 력

2009 - 2010	가톨릭중앙의료원 수련의
2010 - 2014	서울아산병원 외과 전공의
2017 - 2019	서울아산병원 간담도췌외과 전임의
2019 -	서울아산병원 간담도췌와과 촉탁임상조교수

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Marginal ulcer after PD

박예종 울산의대

제61차 한국췌장외과연구회

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입증된 신경내분비 종양의 1차 치료제 소마툴린® 오토젤® 120mg

- 위·장·췌장계 신경내분비 종양에 효과를 입증하고 승인받은 유일한 소마토스타틴 유도체입니다.[1]
- 유럽 신경내분비 종양학회 (ENETS)는, 소마툴린® 오토젤® 120mg을 G1/G2의 Midgut, Pancreas에서 Liver tumor burden에 관계없이 1차 약제로 사용하도록 권고하고 있습니다.[2]

ENETS 2016 Guidelines recommendations[2]

Primary site	MIDGUT				PANCREAS			
Grading	G1		G2 Ki-67 ≤10%		G1		G2 Ki-67 ≤10%	
Liver tumor burden	Low	High (>25%)	Low	High (>25%)	Low	High (>25%)	Low	High (>25%)

Octreotide
Preferential use as 1st line therapy

Somatuline® Autogel®
Preferential use as 1st line therapy

소마툴린® 오토젤® 주 60mg, 90mg, 120mg (란레오티드 아세테이트) (프리필드시린지) [효능·효과] 소마툴린 60mg, 90mg, 120mg 1. 1) 수술 및 /또는 방사선치료에 부적절한 말단비대증 치료 2) 수술 및/또는 방사선치료 등으로 성장호르몬 분비가 정상화되지 못한 말단비대증 치료 2. 카르시노이드 종양과 관련하여 일어나는 임상증상의 치료 소마툴린 120mg 3. 절제불가능하고 고도로 분화된 혹은 중등도 분화된 국소 진행성 또는 전이성 위.장.췌장계 신경내분비종양의 치료 **[용법·용량]** 1. 말단비대증. 초기 추천용량은 28일 마다 60mg에서 120mg까지 투여한다. 용량은 환자의 반응 정도에 따라 차별화 되어야 한다.(성장호르몬의 수준이 감소하거나 또는 관련 증상이 호전된 환자) 원하는 반응을 얻지 못한 경우, 용량을 증가시킬 수 있다. 성장호르몬(GH)농도가 1ng/mL미만이고, IGF-1수준이 정상화 및/또는 관련 증상이 소실되는 등 완전한 조절이 이루어질 경우, 용량을 줄일 수 있다. 매 28일 마다 60mg 또는 90mg 투여로 잘 조절되는 환자는 120mg을 매 42일 또는 56일 간격으로 투여할 수 있다. 장기간 증상을 모니터링 할 경우, 성장호르몬과 IGF-1의 수준을 체크해야 한다. 2. 카르시노이드 종양 관련 임상증상의 치료. 초기 추천용량은 28일 마다 60mg에서 120mg까지 투여한다. 이 용량은 증상의 소실정도에 따라 조정되어야 한다. 3. 절제불가능하고 고도로 분화된 혹은 중등도 분화된 국소 진행성 또는 전이성 위.장.췌장계 신경내분비종양의 치료. 권장용량은 28일 마다 120mg을 피하주사로 투여한다. 경증 혹은 중등도 신기능장애 환자의 경우, 용량조절이 필요하지 않다. 중증 신기능장애나 간기능 장애 환자에 대한 안전성·유효성은 확립되지 않았다. **[사용상주의사항]** 제품설명서를 참고하여 주십시오.

Reference 1. Somatuline® Autogel® 120mg (SmPC), Korea; 2015. 2. M. Pavel, *et al.*, Neuroendocrinology. 2016;103(2):172-85.

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