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●小手術時の術中術後出血（歯科、泌尿器科領域）
●歯槽膿漏症（炎症型）の緩解

リソチームとして初めての シロップ剤 小児用・消炎酵素剤
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- 口腔膿腫症（炎症型）の緩解

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- 出血性髄浸血 (炎症型) の緩解

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25. A Clinical Study of Risk Factors Associated with Direct Interruption Surgery for Esophageal Varices; A Comparative Study between Transthoracoabdominal Transsection with Hand-suture and Transabdominal Transsection with EEA Stapler

TORU SHIMIZU
The Second Department of Surgery, Yamaguchi University School of Medicine (Director: Prof. Dr. KOICHI ISHIGAMI)


From the clinical investigation on the risk factor of direct interruption surgery for esophageal varices with the method of multivariable discriminant analysis, ICG R15(%), emergent procedure and variance of operation were more closely related to the operative mortality than other preoperative variables. As compared with transthoracoabdominal esophageal transsection with hand-suture, transabdominal esophageal transsection with EEA stapler is more suitable operation for patients with poorer hepatic reserve.

26. The Studies on the Cerebral Blood Volume and Brain Metabolism in the Experimental Brain Ischemia

AKIRA KOYABASHI
Department of Neurosurgery, Faculty of Medicine (Director: Prof. Dr. HAJIME HANDA)


To clarify the compensatory changes of cerebral blood volume (CBV) and oxygen metabolism in brain ischemia, CBV, oxygen extraction fraction (OEF) and cerebral metabolic rate for oxygen (CMRO2) were studied with the staged decrease of cerebral blood flow (CBF) in the whole brain ischemic model of the rat (modified Pulsinelli's model). By controlling the degree of stenosis in the bilateral common carotid arteries, cortical CBF was decreased into three controlled stages; first to about 60 ml/100 g/min for 2 hours, second to about 40 ml/100 g/min for 3 hours, and finally to about 25 ml/100 g/min for 2 hours, during one time course of 7 hours.

In the second CBF stage, “misery perfusion” state and “low perfusion hyperemia” were observed. This stage can be considered as compensatory stage of brain ischemia. In the third CBF stage, oxygen metabolism already fell into the impairment, and CBV was lower than the normal values.
Studies on Some Problems Regarding the Cardiac Closing Mechanism  

Hideaki Nagasawa  
The Second Department of Surgery, Yamaguchi University School of Medicine (Director: Prof. Dr. Koichi Ishigami)  

The alteration of the cardiac closing mechanism after distal gastrectomy in human being and dogs, and the reconstruction of the cardiac closing mechanism by the Collis-Nissen method in dogs were investigated with open-tip method. In the Billroth-I gastrectomy cases, His angle increased and resting intraluminal pressure at the esophago gastric junction decreased, postoperatively. However, in the Billroth-II gastrectomy cases, no remarkable changes were observed in His angle and resting pressure, postoperatively. The Collis-Nissen operation is useful in reconstructing the cardiac closing mechanism and elongating the esophagus in sliding esophageal hiatal hernia cases with short esophagus.

Clinical Evaluation of Mitochondrial Creatine Kinase Level in Human Tumors  

Ryoichi Shimizu  
The 2nd Department of Surgery, Yamaguchi University School of Medicine (Director: Prof. Dr. Koichi Ishigami)  

Recently mitochondrial creatine kinase (CK) has been detected in patients with various malignant tumors, especially those with cancers of the gastrointestinal (GI) tract. In order to clarify its distribution in the GI tract, the author measured the mitochondrial CK activity in normal and malignant tissues of the alimentary tract by agarose gel electrophoresis using an antibody against the M monomer. The result of this study showed that mitochondrial CK was the predominant isoenzyme in malignant tissue, especially in gastric and colorectal cancers. It seems that mitochondrial CK is the tumor associated marker of the GI tract.

Effect of VIP on the Cardiac Closing Mechanism and Pathophysiology of Achalasia of the Esophagus  

Akira Tangoku  
The Second Department of Surgery, Yamaguchi University School of Medicine (Director: Prof. Dr. Koichi Ishigami)  

The effect of vasoactive intestinal polypeptide on the lower esophageal sphincter was investigated by the manometric study. VIP reduced resting and tetragastrin-stimulated lower esophageal sphincter pressure with significantly greater potency than secretin. Phenol-injected achalasia dogs showed hypersensitive reduction of LES P in comparison with normal dogs. Patients with achalasia showed hypersensitive response to secretin.

Studies on Changes in Endocrine Function and Microvascular Structure of Experimental Chronic Pancreatic Injuries  

Tanoshi Yatai  
The Second Department of Surgery, Murakami Memorial Hospital, Asahi University  

Effect of the progression of fibrosis on microvascular structure and endocrine function is studied by the methods of microangiography, scanning electron microscope and intravenous glucose tolerance test in canine pancreas.

In fibrotic pancreas, the number of efferent vessels in the transitional zone of the islet of Langerhans to exocrine tissue are markedly diminished, but the fundamental microvascular structure of the islet of langerhans is well maintained even thirteen months after pancreatic duct ligation.

The endocrine function is disturbed in most cases of severely fibrotic pancreas.
Cancer Development in the Gastric Remnant, Especially the Effect of Bile Acids
KOHEI MISAKI
The Second Department of Surgery, Yamaguchi University School of Medicine (Director: Prof. KOICHI ISHIHAMA)

The gastric remnant carcinoma develops predominantly after Billroth II resection and in the stump or near the anastomotic site.

 Autoradiographic findings showed that the expansion of the proliferative zone was observed in the gastric remnant, suggesting that the gastric remnant is a disorder of proliferation which may predispose to malignant transformation.

 In Wistar rats, 4-H-thymidine incorporation was significantly greater in the pyloric area than in the fundic area. Peroral administration of CA, DCA or MNNG didn’t increase 4-H-thymidine incorporation in the fundic area but increased in the pyloric area. The addition of CA or DCA to MNNG didn’t increase 4-H-thymidine incorporation.

A Clinical Study on Congenital Biliary Dilatation Comparison of Cystic Type vs Cylindrical-Fusiform Type
YASUO NAKASHIMA and KISAKU SATOMURA
The 2nd Department of Surgery, Faculty of Medicine, Kyoto University (Director: Prof. Dr. KAZUE OZAWA)

 Forty-five cases (less than 15 years-old) of congenital biliary dilatation were divided into two types, namely cystic type and cylindrical-fusiform type, and comparison was made on clinical features as well as laboratory findings between two types.

 Cystic type tended to occur in younger ages than cylindrical-fusiform type.

 Chief complaints of the patients with cystic type were abdominal mass, jaundice and abdominal pain. In the cylindrical-fusiform type, those were abdominal pain, vomiting and fever.

 Serum amylase values increased in 8 patients with cylindrical-fusiform type but no cases increased in the cystic type.

An Experimental Study on Congenital Biliary Dilatation
YASUO NAKASHIMA
The 2nd Department of Surgery, Faculty of Medicine, Kyoto University (Director: prof. Dr. KAZUE OZAWA)

 In order to elucidate the effect of the choledochal stenosis on congenital biliary dilatation, 123 rats were used and comparisons were made among 5 Groups (Group I: control, Group II: single ligation of the choledochus, Group III: short-term observation after ligation and dissection of the choledochus, Group IV: long-term observation after ligation and dissection of the choledochus, Group V: cyst-duodenostomy).

 Cystic dilatation of the choledochus was not induced by single ligation. Cystic dilatation localized in the extrahepatic bile duct could be induced in rats by double ligation and dissection of the choledochus.

 Cystic dilatation was more pronounced in rats weighing less than 100 g than in those weighing 100 g or more.
Effects of an Artificial Intestinal Valve on Massive Bowel Resection

TETSUJI HANAFUSA

The 2nd Department of Surgery, Faculty of Medicine, Kyoto University (Director: Prof. Dr. KAZU OZAWA)


An experimental study was carried out in mongrel puppies to clarify the beneficial effect of an artificial intestinal valve on massive bowel resection.

The following results were obtained:
1) The 80% resection group showed good postoperative intestinal adaptation, while the 80% resection plus ileoceleal valve resection group showed poor adaptation.
2) Significant differences were found in weight, mortality, stool appearance and blood chemistry between the artificial intestinal valve fitting group and the ileoceleal resection group.
3) The artificial valve as well as the ileoceleal valve played an important role after massive bowel resection.

A Clinical Study on an Artificial Intestinal Valve

TETSUJI HANAFUSA and KISAKU SATOMURA

The 2nd Department of Surgery, Faculty of Medicine, Kyoto University (Director: Prof. Dr. KAZU OZAWA)


Considering the result of an experimental study on the short bowel syndrome and on an artificial intestinal valve constructed by telescoping anastomosis, a clinical study was carried out on 14 cases in order to elucidate the effect of the valve.

The following results were observed:
1) The intestinal valve was found to be functional by 1~11 years follow-up studies.
2) By Ba enema examination, the artificial valve was found to be not a cicatric concept but to have a functional valvular mechanism.
3) The effect of the valve was recognized as improvement of fecal condition and defecational control.

Studies on Hyperthermic Chemotherapy for Cancer of the Rectum: Especially the Intraluminal Administration with Perfusion of Adriamycin Containing Warmed Saline Solution

AKITOSHI KUDO

The Second Department of Surgery, Yamaguchi University School of Medicine (Director: Prof. Dr. KOICHI ISHIGAMI)


The author made a fundamental investigation on the hyperthermic chemotherapy for rectal cancer in dogs. Hyperthermia was attained by perfusion of warmed saline solution using two way catheter and adriamycin (ADM) was administered intraluminally at the dose of 10, 50 and 100 mg/1. ADM levels in colonic mucosa were increased in hyperthermic (43°C) group. The localization of ADM in the colon was demonstrated fluorescence-microscopically. Using INAS method, the effect of hyperthermia on the sensitivity of tumor cells to ADM was verified. Two clinical cases with rectal cancer had undergone this hyperthermic chemotherapy.
Stable Cementless Wrist Prosthesis (SCW prosthesis)
YASUO UEBA, NAOKI NISHIJIMA, TAKEO TSUJI, CHIAKI HAMANISHI and TAKAO YAMAMURO
The Orthopedic Department, Faculty of Medicine, Kyoto University

A new wrist prosthesis (SCW prosthesis) is an unconstrained wrist prosthesis which consists of two components. They are made of alumina ceramics and high density polyethylene. It is designed to provide good range of motion, especially full range of extension. A wide contact area of the articulation gives good stability. As the stem and pegs of the prosthesis are made of ceramics, they incorporate well to the bone without cementing. This prosthesis was clinically used in two wrists of two patients. Both patients were postoperatively satisfied with the stable painless wrists.

Principles of Treatment for Cancer of the Esophagus in Our Department
MASAYUKI IMAMURA,¹) KEN OHISHI,¹) YUTAKA SHIMADA,¹) TAKAYOSHI TOBE,¹) TOSHIYUKI ARAI,¹) YOSHIRO HATANO,²) MASAHIRO HIRAOKA,²) MITSUYUKI ABE,²) RYOICHI INOU,²) MOTOHIKO ITO,²) SHINICHI NAMAGINE²)
The 1st. Department of Surgery,¹) Anesthesiology,¹) Radiology,¹) Geriatric Medicine,¹) Institute for Chest Disease,²) Kyoto University, Wakayama Red Cross Hospital.²)

Of 108 patients with carcinoma of the esophagus seen at our Department between August 1975 and 1985, 76 (70.4%) underwent resection of the esophagus. This report is confined to 72 operations performed in the division of the senior author for intrathoracic esophageal cancer. The overall 5-year survival rate was 35%. The 5-year survival rate according to stage was 80% for patients with stage 0, 80% for stage 1, 48% for stage 2, and 35% for stage 3. Usefulness of High Frequency Jet Ventilation for ventilation during open-chest surgery and a new technique of retrosternal esophagostomy with EEA stapler were performed precisely.

Treatment of the Occlusive Cerebrovascular Disease with a Selective Thromboxane A2 Synthetase Inhibitor
SINICHIRO OKAMOTO¹), YASUHIRO YONEKA¹), HAJIME HANDA¹), YUTAKA HANDA¹), YOSHIHITO UMEMURA¹), ICHIRO YANO²), MASANORI TOYOSHIMA³), KENICHIRO IWATSUJI¹), TETSUKI TERAMURA¹), SEN YAMAGATA¹), TAKASHI SEKO²), HARUMI TSUDA²), GICHIRO UKITA²), YASUNORI INOUE²), YUKIO SHIMIZU²), and HARUYASU SAWMII²)
Department of Neurosurgery, Faculty of Medicine, Kyoto University¹), Department of Neurosurgery and Internal Medicine, Otowa Hospital, Department of Neurosurgery and Internal Medicine³), Kyoto Municipal Hospital, Department of Neurology, the second Kyoto Red Cross Hospital²), Department of Neurology, Rakuto Hospital²), Department of Neurosurgery, Shimizu Hospital²), and Department of Internal Medicine, Takeda Hospital²).

A selective inhibitor of the thromboxane A2 synthetase, OKY-046, was administered for over 3 months to 29 patients with occlusive cerebrovascular diseases including 10 TIAs and 4 RINDs. The frequency of the ischemic episodes of TIA or RIND reduced remarkably after the oral administration of OKY-046, 600 mg a day. Of these, 2 patients experienced cerebral infarction during the study. The drug tended to reduce the ex vivo platelet aggregability induced by either arachidonic acid or collagen, but not by ADP or epinephrine. There was only one patient with adverse effect who complained of mild epigastralgia.

京都大学医学部整形外科学教室 上羽康夫，西島直哉，辻 夫，沢西千秋，山室隆夫

京都大学医学部第一外科 今村正一，大石 健，篠田 修，戸部隆吉 同 麻静科 荒井俊之，畑美義雄 同 放射線科 平岡真寛，阿部光幸 同 老年科 井上良一 同 胸部疾患研究所外科 伊藤元彦 同和歌山赤十字病院外科 長崎慎一
20
Experimental Study on the Prevention of Vasosspasm Following Subarachnoid Hemorrhage by a Thromboxane A2 Synthetase Inhibitor, OKY-046
SHIGEAKI OHSGU
Division of Neurosurgery, Brain Research Institute, Niigata University (Director: Prof. Dr. RYUICHI TANAKA)

The prevention of vasospasm by an inhibitor of thromboxane A2 synthetase OKY/046 was studied in the experimental subarachnoid hemorrhage of dogs. The degree of the vasospasm 3 days after SAH in the treatment group was remarkably decreased. Thromboxane B2 in the plasma of the jugular vein increased markedly in the control group, whereas it was remarkably inhibited in the treatment group. Local cerebral blood flow in the control group decreased after SAH, but increased significantly in the treatment group.

21
Eosinophilia in the Patients with Carcinomas of the Stomach and Colon, Release of Eosinophilopoietic Factor from Carcinoma Tissue
TATEMI KAJIWARA
The Second Department of Surgery, Yamaguchi University School of Medicine (Director: Prof. Dr. KOICHI ISHIGAMI)

Cancer patients are occasionally accompanied by eosinophilia, but the mechanisms remain obscure. To elucidate one mechanism that may account for cancer-associated eosinophilia, the author studied the proliferating factor of eosinophil in human tumors from the patients whose peripheral eosinophil counts are over 500/mm. Tumor cells were centrifuged at 600 \(\times\) g, 10000 \(\times\) g and 100000 \(\times\) g, respectively, and each extract was added to the human bone marrow cell culture, and eosinophilopoietic activity was assayed.

The result of this study showed that each extract from the tumors of eosinophilic patients had a eosinophilopoietic factor but no eosinophilopoietic activity was found in those from tumors of non-eosinophilic patients.

22
Experimental and Clinical Studies on Exocrine and Endocrine Gastric Functions Following Pancreatoduodenectomy with Preservation of the Stomach
HWI-CHA KIM
The 1st Department of Surgery, Faculty of Medicine, Kyoto University (Director: Prof. Dr. TAKAYOSHI TOBE)

Experimental findings in Pancreatoduodenectomized dogs indicated the importance of preservation of the pyloric ring and the duodenal bulb for prevention of a marginal ulcer. Therefore, we performed pancreatoduodenectomy with preservation of the stomach and the duodenal bulb in addition to physiological reconstruction in 10 patients without ulcerogenesis. In this series, all patients showed excellent results without any evidence of a marginal ulcer.

It was concluded that pancreatoduodenectomy with preservation of the stomach as well as the duodenal bulb is a reliable procedure for minimizing the surgical insult occurring after conventional procedures associated with gastric resection, if indication is selected.

23
Clinico-pathological Studies and the Result of Surgical Treatment of Esophageal Cancer
HIROTO HAYASHI
The Second Department of Surgery, Yamaguchi University School of Medicine (Director: Prof. Dr. KOICHI ISHIGAMI)

Among 263 patients with squamous cell carcinoma of the esophagus who referred to our institution, 223 (84.4%) underwent resection of esophageal carcinoma with lymph node dissection. From the clinico-pathological studies and the statistical techniques of multivariant analysis, it was concluded that lymph node dissection of the upper mediastinum was useful to improve the rate of survival. The five-year-survival rate of the patients who had undergone curative resection for last five years was 45.6%, while it was 21.4% before then.
Effect of Hepatic Vagotomy on the Function of Biliary Tract and Pariarterial Sympathectomy of the Common Hepatic Artery as a Countermeasure

HIDEO ARIYOSHI
The Second Department of Surgery, Yamaguchi University School of Medicine.
(Director: Prof. KOICHI ISHIGAMI)


The effect of hepatic vagotomy on the function of biliary tract was investigated in experimental dogs.

After hepatic vagotomy, the ability of the gallbladder contraction and the gallbladder tonus were reduced, however sphincter tonus was increased.

It was proved that the relative predominance of sympathetic innervation of the biliary tract caused such changes.

It was suggested that periarterial sympathectomy of the common hepatic artery improved such disorder of the biliary function.

Application of Solid Low Residue Diet Consisting Mainly of Elemental Diet in Colorectal Diseases

YOZO AOKI, MASATAKA OHTA, YUKITOMO SAKAMOTO, KOSUKE SHIMADA, MASAIRO SAKAGUCHI, NOBUO TAKEI and MASAHARU KATSUMI


An application of our modified elemental diet (ED) to Crohn's disease, low output fistula caused by anastomotic leak after colonic surgery, and pre- and postoperative use in colorectal surgery are presented. The modified ED, which had been devised to make the patients easier to take it orally, was prepared and cooked by adding ED with wheat flour in the ratio of 3 to 1. The clinical usefulness of the modified ED became obvious in the treatment of the above pathological conditions.

The limit in the use of this modified ED for preoperative colonic preparation are also discussed.

Studies on the Concentration of Lipid Peroxide in Plasma and Erythrocytes during Cardiopulmonary Bypass

RYOKO TABATA, ATSUMI MORI, YOSHIO NAKAMURA, KAZUO WATANABA, MASAIRO ONO, KENTARO TAKAHASHI, AKIRA YAMANAKA, HIROFUMI KATO and YOSHIK OKADA
The Second Department of Surgery, Shiga University of Medical Science, Otsu, Japan


We attempted to alleviate the toxic effect of a high concentration of oxygen during cardiopulmonary bypass (CPB) by measuring the lipid peroxide concentration in plasma and erythrocyte in clinical cases. The plasma concentration of the lipid peroxide were decreased during CPB and then recovered to the initial values after two hours of CPB. On the other hand, the lipid peroxide concentrations of erythrocyte were not significantly changed. But the positive correlation relationship was existed between the age and the levels of lipid peroxide of plasma and erythrocyte. Thus it is concluded that the toxic effects of lipid peroxide during CPB were hardly recognized except the older patients.
Percutaneous Microwave Tissue Coagulation in Liver Biopsy: Experimental and Clinical Studies

YOJI TABUSE, KATSUYOSHI TABUSE, KAZUNARI MORI, YUGO NAGAI, YASUHITO KOBAYASHI, HIROMU EGAWA, HIROSHI NOGUCHI, HIROKI YAMAUE, MASAHARU KATSUMI and YASUHIKO NAGASAKI*

Department of Gastroenterological Surgery, Wakayama Medical College (Director: Prof. Dr. MASAHARU KATSUMI)
*Second Department of Internal Medicine, Wakayama Medical College (Director: Prof. Dr. ISAO YATAKA)


The microwave tissue coagulator was applied for the prevention of hemorrhage and malignant seeding in the needle tract after liver biopsy, as it was an excellent device useful for tissue coagulation and hemostasis.

A specially designed microvave needle electrode, that permitted percutaneous microwave coagulation through the biopsy needle, was examined experimentally and proved to be useful and safe.

Clinically, microwave coagulation combined with liver biopsy was carried out on 44 patients with liver disease and exerted a perfect hemostatic effect with no complications.

It seems realistic to presume that damaged tumor tissue and malignant cells scattered in the needle tract must have been necrotized by microwave coagulation.

Biomechanical Effects of Innominate Osteotomy

WOLFGANG KÜSSWETTER, YASUSUKE HIRASAWA*

Department of Orthopaedic Surgery, University of Würzburg (Director: Prof. Dr. A. RÜTT)
*Federal Republic of Germany.


The simple pelvic osteotomy in the technique of SALTER was simulated on a macerated female pelvis. The effect of tilting the distal segment of the pelvis outwards, forwards and downwards with different osteotomy angles in the range between 0 and 40° was examined. Depending on the angle of osteotomy, the angle of rotation and the amount of the displacement of the distal segment of the pelvis were measured as well as the CE angle. The data thus ascertained give the operator planning parameters with whose help he can preoperatively estimate the remaining hip parameters depending on the desired improvement of the acetabulum.

Regeneration of Cirrhotic Remnant Liver after Partial Hepatectomy, Especially the Relationship between Insulin Receptor and Hepatic Regeneration

HIDESHI MORIOKA

The 2nd Department of Surgery, Yamaguchi University School of Medicine (Director: Prof. Dr. KOICHI ISHIGAMI)


Humoral factors, especially pancreatic hormones, insulin and glucagon, have been suggested to stimulate liver regeneration following partial hepectomy.

But these stimulants seem to be not so effective for cirrhotic livers. The author supposed the receptors of these factors may be damaged in cirrhotic liver hepatocytes and studied the uptake of 125I-labelled insulin into the normal or cirrhotic rat liver hepatocytes by light microscope autoradiography. Further, the author examined the effectiveness of insulin, glucagon and prostaglandin E1, as hepatotropic factors, to the rat liver regeneration after 70% partial hepectomy.

Clinical and Experimental Investigations on Pathogenesis of Gastric Mucosal Injury in Pancreatic Insufficiency (1) Observations in Patients with Pancreatic Disease

SHUHEI HASHIDA

The 1st Department of Surgery, Faculty of Medicine, Kyoto University (Director: Prof. Dr. TAKAYOSHI TOBE)


Among 74 patients with pancreatic disease, gastric acid output and gut hormones were measured, and the gastric and duodenal mucosa was examined endoscopically.

Of the 74 patients, 9 showed hyperacidity, 27 normoacidity, and 38 hypoacidity, moreover, 18 (24%) had a peptic ulcer at the time of investigation or a previous history of it.

Many patients with pancreatic disease had gastric and duodenal mucosal injury, but most of them did not have hyperacidity. Of the 18 patients with mucosal injury, 13 (72%) had normoacidity or hypoaicidity.

It is concluded that the pathogenesis of peptic ulcer depends much more on defensive than on offensive factors.
Clinical Experimental Evaluation of the Pathogenesis of Gastric Mucosal Injury in Pancreatic Insufficiency
(2) Changes of the Gastric Mucosal Blood Flow in Dogs
SHUHEI HASHIDA
The 1st Department of Surgery, Faculty of Medicine, Kyoto University (Director: Prof. Dr. TAKAYOSHI TOBE)
To clarify the pathogenesis of mucosal injury with pancreatic insufficiency, gastric mucosal blood flow was measured by the hydrogen clearance technique and the heated thermocouple method.
In 7 anesthetized mongrel dogs, gastric mucosal blood flow was measured before and 3 weeks after pancreatic duct ligation. In 7 other anesthetized mongrel dogs, gastric mucosal blood flow was measured before and 3 weeks after ligation of both the pancreatic and common bile ducts.
After pancreatic duct ligation, no change was found in the corpus ventriculi, but the blood flow in the antrum was significantly decreased to 69.0% of the pre-operative level. After ligation of both the pancreatic and common bile ducts the gastric mucosal blood flow was significantly decreased to 72.3% in the corpus and 75.6% in the antrum.
Gastric mucosal lesion was not found after pancreatic duct ligation or after ligation of both the pancreatic and common bile ducts. But histamine-induced gastric mucosal lesion was observed in the part with decreased gastric mucosal blood flow after ligation.

Immunological Studies on the Colorectal Cancer
MASAAKI FUNAMOTO
The Second Department of Surgery, Yamaguchi University School of Medicine (Director: Prof. Dr. KOICHI ISHIGAMI)
NK activity of the peripheral blood lymphocytes, serum IAP level and the cellular infiltration around the tumor of the colorectal cancer patients were examined.
The decrease in NK activities and the increase in IAP levels before surgical operation were observed in the Stage IV or V patients with colorectal cancer. Surgical curability had relation to NK activities and IAP levels before operation. The negative vorelation between NK activity and IAP level was found. The T lymphocytic infiltrations around the tumor decreased with advance of staging but the subsets of them did not show the significant change in each stage.

Dynamics of Coagulation-Fibrinolysis by Cathcholamine in Shock
HIRONORI KANEKO
The 2nd Department of Surgery, Toho University School of Medicine (Director: Prof. Dr. SETSUO TAKEUCHI)
We studied the effects of catecholamines on coagulation-fibrinolysis and obtained the following results on the relationship between them and DIC during experimental and clinical shock.
1) In experimental adrenalin and noradrenalin administration using dogs, fibrinolytic activation was an characteristic phenomenon.
2) In hemorrhagic shock, observed were an activation of fibrinolysis and a slight activation of coagulation as were in the experimental adrenalin dosing.
3) In endotoxin shock, DIC was not induced via catecholamines but directly by endotoxin itself for coagulation and fibrinolysis were less activated by catecholamines.
These results suggest that catecholamines did not play an important role in DIC.

Application of Endoscopic Papillotomy to Carcinoma of the Duodenal Papilla: As Jaundice Reducing Treatment and as Pre-treatment of Laser Irradiation
HITOYASU KATSUDA, HIROYUKI SHIMIZU and SHINICHI NAGAMINE
Department of Surgery, Wakayama Red Cross Hospital
Endoscopic papillotomy was performed as a jaundice reducing treatment and as a pre-treatment of endoscopic laser irradiation on three patients with carcinoma of the duodenal papilla and was judged effective. In two patients with jaundice, a satisfactory jaundice reducing effect was obtained one month after endoscopic papillotomy. As for the application to pre-treatment of endoscopic laser irradiation, the present method was very useful for complete exposure of a tumor but improvement of quartz fiber and endoscopic devices was considered necessary for the execution of laser irradiation.
Prevention of Vasospasm Following Subarachnoid Hemorrhage
Using a Thromboxane A₂ Synthetase Inhibitor (OKY-046)—Clinical Study among Multiple Institutions—

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Thromboxane A₂ synthetase inhibitor (OKY-046) was administered on 20 patients with ruptured aneurysm (registered from Aug. 1985 to Jan. 1986), to evaluate its preventive effect against angiographic and symptomatic vasospasm following subarachnoid hemorrhage.

Patients with negative and minor angiographic vasospasm amounted to 69 % of the series, while patients with negative and minor symptomatic vasospasm 90 %. Patients without LD and with small LD occupied 76 %, while patients with ADL 0-1 75 %. These results are considered to be superior in prevention of vasospasm to those of the placebo group of the double blind study of OKY whose result has been reported recently.

It is thus concluded that this thromboxane A₂ synthetase inhibitor OKY should be taken into consideration as an effective treatment against vasospasm following subarachnoid hemorrhage.

Clinical Experience of Iotrolan

MASATSUNE ISHIKAWA AND HAJIME HANDA

Department of Neurosurgery, Faculty of Medicine, Kyoto University


A new non-ionic water-soluble contrast medium, IOTROLAN, was used for myelography in 10 cases and CT cisternography in 1 case. Satisfactory demonstration of spinal or intracranial subarachnoid space was noted as comparable to the metrizamide. It is convenient for clinical practice not necessary to solve the contrast medium at the spinal tap. There was no major side-effect and its frequency was almost the same as the metrizamide, with tendency of milder in degree and delayed on onset. Thyroid function was not affected in most cases, although delayed recovery was noted in one case of hypothyroidism.
Experimental Studies on Tolerance of Brain to Ischemia Following Occlusion of Cerebral Arteries with Respect to Electrophysiological Parameters

HIDEYUKI SUWA
Department of Neurosurgery, Faculty of Medicine, Kyoto University (Director: Prof. Dr. Hajime Handa)


Experimental studies were undertaken on cat to apply somatosensory evoked potentials as a monitoring tool for assessing the brain function during temporary occlusion of cerebral arteries. Somatosensory evoked potentials were generated in dorsal column-medial lemniscal pathway, which were more tolerant electrophysiologically to ischemic insult than auditory pathway. SEP seems to be more reliable in practice than BAEP as a monitoring method of the brain stem function.

The Role of VIP in the Experimental Dumping as an Humoral Factor

HIKARU HARADA
The Second Department of Surgery, Yamaguchi University School of Medicine (Director: Prof. Dr. Koichi Ishigami)


The VIP level in the portal vein blood was increased and that in the tissue extract from the duodenum was decreased in the experimental dumping model dogs.

In the continuous infusion of VIP into the portal vein at the rate of 4 µg/kg/hr, a more increased cardiac output and decreased systemic vascular resistance were observed than at the rate of 1 µg/kg/hr.

The author proposes that VIP is one of the humoral factors in the occurrence of experimental dumping.

Effect of Secretin and Vasoactive Intestinal Polypeptide on Mucosal Defensive Factors in Cysteamine-Induced Duodenal Ulcer

NORIFUMI JOHN
The Second Department of Surgery, Yamaguchi University School of Medicine


The duodenal mucosal blood flow decreased after the administration of cysteamine. It was significantly inhibited after injection of either secretin or VIP. Healing process of cysteamine-induced duodenal ulcer was studied using anti Bromodeoxyuridine monoclonal antibody, especially from the viewpoint of cellular kinetics of the Brunner's gland.

At the early stage of healing process, labelled cells remarkably increased in the Brunner's glands. And secretin activated cell proliferation in the Brunner's gland.

Mechanism of Prevention against Stress Ulcer by Vagotomy and Famotidine: Viewed from Transmucosal Potential Difference and Histamine Stain by a Fluorescence Histochemical Method

EICHI YOSHINAGA
The Second Department of Surgery, Yamaguchi University School of Medicine


Mechanism of prevention against stress ulcer by vagotomy and famotidine was studied by measuring transmucosal potential difference (PD) and histamine stain by a fluorescence histochemical method, using water immersed and restrained rats.

PD values were lower in vagotomized group and higher in famotidine injected group compared with control group after stress procedures.

In the oxyntic gland area, mast cells which emitted fluorescence of histamine were decreased in the vagotomized group. Injection of the famotidine showed no change in the fluorescence of the mast cells.
Intra-Aortic Balloon Pumping in Infants

HIROYUKI FUKUMASU*, NORIKAZU TATSUTA**, YOSHIUMI OKAMOTO***, TOSHIHIKO BAN***

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From October 1981 to August 1984, intra-aortic balloon pumping (IABP) was applied in nine patients who were from 2 months to 7 years old, weighted from 3.4 to 18 kg. In eight patients, the miniaturized intra-aortic balloons were used in the heart with 1.0 to 10 ml volumes mounted on No. 3.5 to 6.0 F catheters were used. Effective diastolic augmentation of arterial pressure was accomplished in seven and suprasystolic diastolic augmentation was accomplished in five. There were three long-term and three short-term survivors. Conclusively miniaturization of the equipment has permitted IABP to be used effectively in pediatric patients.

Clinical Analysis of Long-Term Administration of Glyceol

MASATSUNE ISHIKAWA, HAJIME HANHA1, JOHJI HANHA2, KIMIYOSI HIRAKAWA3, TAKASI NAKAMURA3, TAKASHI NAKAMURA4, MASAYUKI FUKUMA4, SIGEYOSI SIRAMINE4, SIGENOSI TAKETOMO5, KENJI ODAWARA5, TOSHIRO NISIMURA5, KENJI OGINO6, KAZUYOSI WATANABE11, MITUO TOYAMA12, OSAMU YASUHARA13 and KIMIO SATOKE14

Department of Neurosurg. Kyoto University5, Department of Neurosurg. Shiga University of Medical Science6, Department of Neurosurg. Kyoto Prefectural Medical College7, Department of Neurosurg. National Kyoto Hospital9, Departments of Neurosurg. and Neurology10, Kyoto First Red Cross Hospital, Department of Neurosurg., Saiseikai Kyoto Prefecture Hospital11, Department of Circulation Medicine, Medical Center for Adult Diseases, Shiga9, Department of Internal Medicine, Kougou Hospital10, Department of Internal Medicine, Kohoku General Hospital10, Department of Neurosurg., Oumihachimann City Hospital11, Departments of Neurosurg.10 and Internal Medicine10, Department of Internal Medicine, Moriyama City Hospital40


A cooperative study of long-term administration of Glyceol for more than 7 days was done in 140 cases for evaluating the effectiveness and safety in various neurological disorders such as cerebral infarction, intracerebral hemorrhage, brain tumors, head injury and others.

The overall improvement was noted in 88.5%. The patients with cerebral infarction and brain tumor with moderate severity had more favorable effect, and their improvement was closely related to the dosage and duration of Glyceol. No major side-effect was noted in most cases.
Abdominal Surgery in Patients with Heart Block with Cardiac Pacemaker in Place

TAKAAKI SUDO, RYUJI SHOBU, HIDETAKA KANAZAWA, RYUJI TSUBAKIMOTO, YOSHIRO FUJI, MASAO KAWAMURA, YOH KASAHARA, HIROYA UMEMURA, SEI SHIRAHATA, TAKESHI KUYAMA
Second Department of Surgery, Kinki University School of Medicine.
TAKASUMI NISHIOKA, HIDETAKA OKU, HITOSHI SHIROYA
Department of Cardiovascular Surgery, Kinki University School of Medicine

Recent progress in medical electronics is striking, and it has become possible to perform with safety the gastrointestinal surgery in patients associated with certain heart block disease by the use of pacing. We have recently experienced six cases on which the gastrointestinal surgery was performed under pacing.

Computed Tomography with Cystic Acoustic Schwannomas
HIROFUMI NIYOKA, AKIRA SAIKO, KAZUMITSU KYOSHIMA and JYOJI HANDA
Department of Neurosurgery, Shiga University of Medical Science, Ohtsu, Japan

Although the computed tomography scanning is a single, most useful radiologic method with high sensitivity and specificity for a diagnosis of acoustic schwannomas, its appearance may closely mimic that of other mass lesions in the cerebellopontine angle region such as malignant gliomas, metastatic tumors, abscesses and several others. Three such cases are reported.

Cholecystitis in Hereditory Spherocytosis: Report of a Case
YOH KASAHARA, MASASHIKO TAKEMOTO, KICHI NAKAO, SHOZO UEDA, YUKIKAZU YAMADA, NARUMI SONOBE and TAKESHI KUYAMA
The Second Department of Surgery, Kinki University School of Medicine (Director: Prof. Dr. Takeshi Kuyama)

The postoperative course of a 20-year-old female with cholecystitis in hereditary spherocytosis (HS) undergoing simultaneously cholecystectomy and splenectomy was uneventful. In 56 surgical cases of cholecystitis in HS including our own since 1960 in Japan, the male-to-female ratio was 1:1.9 with no significant difference in the mean age between sexes. Patients aged 30's and younger were prevalent. Gallstones mainly composed of bilirubin were located in the gallbladder in general. Biliary tract surgery and splenectomy were performed simultaneously in 92 percent of the cases. To prevent cirrhosis and other complications, biliary tract surgery should be carried out in HS patients with cholecystitis.

Thyroid Cancer of a 13 Year-Old-Girl
YUZO YAMAMOTO, KIMIO HENMI, HISASHI SAWADA, MASANOBU WASHIDA, NARITAKA YAMAMOTO, ISAO SATO, TOYOTAKE OKANOU, HIROMI MITANI
Ako Municipal Hospital, Department of Surgery (Director: Washiro Ogino M.D.)

Although case reports of the childhood thyroid cancer are increasing in recent years, only 100 or so cases have been reported to date in Japan. Our recent experience with an 13-year-old girl, whose lesion was detected in a school medical examination and who subsequently underwent a successful resection, is reported. The special characteristics of thyroid cancer in children and the importance of early diagnosis is discussed.
Development of a Bioassay of Opsonic Activity for Kupffer Cell and Humoral Factors Stimulating Phagocytosis

SHIGEKI ARII

The 1st Department of Surgery, Faculty of Medicine, Kyoto University


Using the primary culture of rat Kupffer cells which maintain the specific function of mononuclear phagocyte in vitro, a bioassay of opsonic activity was developed. As phagocytoblast material ⁵¹Cr-endotoxin was employed because of its biological nature that endotoxin is exclusively phagocytized by Kupffer cells and possesses a variety of pathogenetic roles.

Moreover, the opsonic index measured with present method was not affected by opsonic proteins such as IgG, complement components or plasma fibronectin. The findings suggest that unknown humoral substances enhancing the opsonic index are present in the fraction of 50%~60% saturated ammonium sulfate precipitates.

Biological Significance and Prognostic Role of Opsonic Activity for Kupffer Cell Phagocytosis in Experimental Liver Injuries and Partially Hepatctomized Patients

SHIGEKI ARII

The 1st Department of Surgery, Faculty of Medicine, Kyoto University


In the rats with OCl⁻-induced liver cirrhosis, high opsonic activity was observed, being suggested to be a compensatory response for maintaining the host defense. By contrast, in the rats with fulminant hepatitis, opsonic index was remarkably decreased. Such a decrease indicated a failure of the compensatory mechanism in the reticuloendothelial system.

Based on the above results, the clinical cases were analyzed. Three distinct types of responses in the opsonic index after partial heptectomy were observed. Evidence will be presented indicating that the opsonic index is a reliable indicator of the outcomes of the partially heptectomized patients.

Experimental Studies on Influences of Portal Vein Interruption on the Pancreas

KOUSUKE SHIMADA

Department of Gastroenterological Surgery, Wakayama Medical College


Influences of transient portal vein interruption on the pancreas were studied in rats. As regards influences on the general condition, an increase of serum amylase activity and serum acid phosphatase activity, and a decrease of femoral artery pressure were observed. As regards changes of the pancreas, a decrease of oxygen saturation in the tissue and acid phosphatase activity in the homogenate, an increase of weight, and histological changes by light and electron microscopy were observed. These changes were in proportion to the length of interruption time. These changes were not reduced by divided interruption but slightly reduced by premedication with a protease inhibitor.

Acute Effects of 1-[Bis(4-fluorophenyl)-methyl]-4-(2,3,4-trimethoxybenzyl)-piperazine dihydrochloride, KB-2796, on the Cerebral Blood Flow in Unanesthetized Cats.

TOSHIRO KANAZAWA, YOKO NAKASU, MASAYUKI MATSUDA, and JYOJI HANDA

Department of Neurosurgery, Shiga University of Medical Science


Effects of an intravenous administration of KB-2796, a new synthetic Ca²⁺ channel blocker, on the cerebral blood flow in unanesthetized immobilized cats were studied using hydrogen clearance method. Systemic blood pressure showed a mild decrease, but pCO₂, pO₂, and pH of the arterial blood remained unchanged during the experiments. KB-2796 in the dosage of 0.1 and 0.3 mg/kg showed a dose dependent increase in the cerebral blood flow. Effects of 1.0 mg/kg did not differ significantly from those of 0.3 mg/kg. As several drugs known to increase the cerebral blood flow in unanesthetized experimental animals fail to show any such effects in unanesthetized conditions, it seems to be stressed that KB-2796 does increase the cerebral blood flow in cats in the unanesthetized, immobilized condition as well.
Synergy of Microwave Coagulation and Streptococcal Preparation (OK-432) in Experimental Tumor in Regard to the Interleukin 2 Producing Activity

HIROKI YAMAUE, MASAHARU KATSUMI, KATSUYOSHI TABUSE, YOJI TABUSE, HIROMU EGAWA, HIROYUKI NOGUCHI, YUGONAGAI, YASUHITO KOBAYASHI and KAZUNARI MORI

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The interleukin 2 (IL-2) producing activity of spleen cells was investigated in use of the microwave coagulation (MC) with OK-432 in experimental tumor. Mice transplanted Meth A & fibrosarcoma were treated by MC and/or OK-432. Tumor growth in the group treated by both methods was significantly inhibited as compared with that of either method alone. Viability percentage was higher in the group treated by both methods, Similarly. And from the view point of IL-2 producing activity of spleen cells, synergy of MC and OK-432 was proved.

Depending upon the facts mentioned, the clinical application was done. The patients treated by both MTC and OK-432 were improved in symptoms and signs, still more IL-2 producing activity was more augmented.

The Influence of Laparotomy-Related Stress on Gastric Secretion

SUMIKAZU OKA

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With the view to examining the influence of laparotomy-related stress on both aggressive and defensive factors of gastric mucosa, pre- and post-operative gastric secretion was measured in a total of 107 operative cases of cholelithiasis and colorectal diseases.

Laparotomy-related stress caused an increase in blood cortisol level, gastric acid hypersecretion and a decrease in hexosamine in the gastric juice. Extradural anesthesia and epidural morphine administration caused an inhibition of increase in blood cortisol level, of gastric acid hypersecretion and of decrease in concentration of hexosamine. Cimetidine exerted an inhibitory effect on gastric acid hypersecretion after laparotomy.

Treatment of Cerebral Infarction in the Acute Stage with Synthetic Antithrom bin MD-805: Clinical Study among Multiple Institutions

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Clinical Application of the Urokinase-Im mobilized Polyurethane Catheter

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Urokinase-immobilized polyurethane tubes which had a thromboreistant luminal surface were used in 23 patients as central venous catheters. Catheters were inserted into the inferior vena cava via the femoral vein at the time of operation to evaluate the central venous pressure and were then used for intravenous fluid therapy. These catheters were removed after one to 10 days (the average 4.8 days). Macroscopically, no thrombus was seen on the surface of the catheter. These catheters were examined by scanning microscopy to evaluate the surface characteristics. No thrombus formation was observed within five days. After seven days, the luminal surface of the catheter was covered with a thin cellular thrombus formed by platelets, red blood cells and white blood cells entrapped in fibrin strands. Our study demonstrated that the urokinase-immobilized Catheter had adequate antithrombogenic activity for five days of clinical use.
A case of extrahepatic growing hepatocellular carcinoma is present and Japanese literatures were reviewed. A 42 year old man was admitted to this hospital on December 27, 1985 complaining of epigastralgia and nausea. Echogram and CT showed large tumor in the right hepatic lobe. By the operation, large extrahepatic growing hepatocellular carcinoma was resected.
Effects of 1-[bis(4-fluorophenyl)methyl]-4-(2,3,4-trimethoxybenzyl)piperazine dihydrochloride, a New Synthesized Ca2+ Blocker KB-2796, on Free Fatty Acid Liberation in Ischemic Brain in Rats

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Effects of a new synthetic Ca2+ antagonist KB-2796 on the liberation of free fatty acids in the ischemic rat brain were studied. KB-2796 attenuated brain free fatty acid accumulation following decapitation, and this effect was most pronounced in 1-minute- and 60-minute-ischemia models. This effects of KB-2796 seem to potentiate its therapeutic usefulness in cerebrovascular diseases.

Refobacin Concentration in Blood Serum, Urine and Wound Secretion: A Comparative Study of Refobacin-Palacos and Implast-Gentamicin in the Total Hip Replacement

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The value of the Gentamicin concentrations in serum, urine and wound secretions of 9 patients whose total prosthesis were implanted with Refobacin-Palacos was compared with the analysis of 8 patients whose endoprotheses were implanted with Implast-Gentamicin. The following results were obtained.

1) The Implast-Gentamicin group reflected a positive bioequivalence with an overall high Gentamicin concentration wound secretions and blood serum with relative bioavailability of the Gentamicin.

2) The renal elimination in Refobacin-Palacos group was much more distinct than in Implast-Gentamicin group, especially on the first day.

Giant Aneurysm of the Azygos Anterior Cerebral Artery

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Giant aneurysm of the azygos anterior cerebral artery is reported. The aneurysmal wall was partially calcified. This aneurysm was successfully clipped. Giant aneurysm of this location is very rare.
Mediastinal Hemorrhage as a Complication of Retrograde Brachial Angiography

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Kenichi Matsumura

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Mediastinal hemorrhage with extravasation of the contrast medium occurred as a complication of retrograde brachial angiography in a 71-year-old female. Immediately after a manual injection of the contrast medium, the patient complained of severe chest pain and the chest X-ray showed a picture not unlike a dissecting aneurysm of the aorta. Dissection of the aorta was excluded by follow-up radiologic studies.

Transfemoral manipulation of a guide wire and/or a catheter prior to the retrograde brachial injection was assumed to have caused intimal damage in the brachiocephalic artery.

Nothnagel Syndrome with Midbrain Hemorrhage

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A 55-year-old male suffering from headache and diplopia was found to have right oculomotor palsy, paralysis of upward gaze of his left eyeball, and cerebellar ataxia on the left side, signs known as Nothnagel syndrome that is quite rare. Repeated CT scannings and MR imagings confirmed the diagnosis of spontaneous hemorrhage in the midbrain, whereas angiography failed to disclose any vascular anomalies.

Reports on the Nothnagel syndrome were reviewed, and the oculomotor innervation of the contralateral superior rectus muscle was discussed.