

Strengthen international academic cooperation and exchanges: prospects in the 21st century: Summary of the First World Chinese Congress of Digestion

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The First World Chinese Congress of Digestion was held in Beijing from October 20 to 22, 1998 in the beautiful capital city of Beijing. The specific aim of this meeting is to summarize and exchange the experience of modern and traditional digestive medicine, and to enhance academic exchanges and cooperation among the Chinese and all other scientists in the world. The congress includes extensive topics, such as the telomerase activity in hepatic carcinoma tissues, acupuncture and moxibustion expression of cellular factor related genes in ulcer colitis in rats antifibrosis by tetrandrine, and *Helicobacter pylori*, gastric carcinoma etc. More than one thousand participants from 12 countries, including the United States, United Kingdom, Australia, Japan, Canada, Israel, South Korea, etc attended this magnificent meeting. Nineteen hundred and eighty-six abstracts were submitted to the meeting and from which, seven hundred abstracts were accepted. Some distinguished experts were invited to make special lectures at the plenary sessions (*WJG*, Supplement 2, 1998) and 81 doctors and researchers made presentation at the symposia mainly on the following areas.

DIGESTIVE NEOPLASMS

Esophageal cancer

Alteration of *p19* mRNA expression in esophageal cancer tissue from patients at high incidence area in northern China was reported by Qi *et al*, from Henan Medical University. RT-PCR was used to measure the expression of *p19ARF*, *p53* and *p21* in 19 pairs of frozen normal esophageal and tumor

samples. The cycle number for each pair of primers was fine-tuned to limit the amplification to a linear range. PCR products were then resolved on 2% agarose gel. The density and area of each band was measured using image-pro-plus 1.3 software. The relative expression level of each gene in tumor and normal tissues was calculated using the housekeeping gene GAPDH as an internal control. In the total of 19 tumor samples, 8 (42%) had at least a 3-fold decrease in *p19 ARF* but with no decrease in *p53* expression, 5 (26%) had significantly decreased expression of *p53* but had normal expression of *p19ARF*, only two sample (11%) had decreased level in both *p19ARF* and *p53* expression. The results suggest a negative correlation between the alterations of these two genes in the esophageal tumor. The relative expression level of *p21* in *p19ARF* negative sample (0.78 ± 0.16) was about half of that in *p19ARF* positive samples (1.63 ± 0.22). The results support the hypothesis that *p19* inactivation contributes to esophageal tumor progression and follows the same pathway as *p53* and *p21*. The cyclin-dependent kinase inhibitor *p16* and *p15* play important roles in the regulation of the cell cycle, and have been found to have tumor suppressing roles in a variety of types of cancer. It has been shown that *p16* aberrant methylation and *p15* homozygous deletions were frequently involved in human esophageal squamous cell carcinoma (ESCC). This study examined the impact of such molecular alterations on the expression of these genes. Jiao *et al* (Henan Medical University) measured the mRNA level of both genes in 21 frozen ESCC specimens using semiquantitative RT-PCR. Nineteen cases were observed at a low basal level of *p16* expression (0.11 ± 0.07 , expression units normalized by housekeeping glyceraldehyde-3-phosphate dehydrogenase gene as internal standard) in the normal epithelia adjacent to the cancer tissues. Among the 19 cases, only 5 showed a significant elevation of *p16* expression (>3.2 folds) in the tumor, whereas the remaining 14 showed either a slight increased (1-2 folds), or decreased *p16* expression compared to normal, whereas 11 had

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only a slight increase (1-2 folds), or decreased *p16* expression compared to normal. In the 5 cases where *p15* was already activated ($P>0.5$) in the adjacent normal epithelium, 4 of them had similar or a slightly lower expression level, but one had a great decrease in *p15* expression (<1% of the normal level). For intact *p16* and *p15* genes, which encode cell cycle regulators, significant increase of their expression on expected in the cancer cells as a response to accelerated cellular proliferation. The findings from Bai et al (Henan Medical University) indicate that the occurrence of hMSH2 protein expression is associated with the cell cycles and related to PCNA expression, implying that the hMSH2 protein is expressed as a guardian in DNA-synthesizing cells.

To observe the morphological changes of the cell apoptosis of esophageal carcinoma cell line EC8712 induced by arsenic trioxide, Shen *et al*, Shantou University Medical College studied the morphology on apoptosis of esophageal carcinoma cell line induced by arsenic trioxide EC8712 cells routinely cultured in 199 medium and acted under $3\mu\text{mol As}_2\text{O}_3$ harvested after 72 hours, and then HE-stained, TUNEL labeled and examined by transmitting electron microscope and flow cytometry. When adding As_2O_3 ($3\mu\text{mol}$) to EC8712 cells for 72 hours, many apoptotic cells appeared. Under light microscope, two kinds of apoptotic cells were seen after H-staining. One was condensed, small-sized and rounded in shape with nucleus dented. The other cells had eosin stained cytoplasm, chromatin agglutinated and the nucleolus existed. The nuclei of the apoptotic cells were positive by labelling with TUNEL kit. The apoptotic peak was identified by flow cytometry. Under electron microscope, two kinds of apoptotic modes were also seen. At early stage of apoptosis, the chromatin of the nucleus agglutinated to pieces and the organelles in the cytoplasm preserved complete. At the second stage, following the change of chromatin, the nucleus became round and full with small pieces of chromatin stickled to the nuclear membrane, while the large clumps of chromatin made the nucleus look like a wheel or a crescent mass. Most of the apoptotic cells showed disintegration of nuclear membrane, from which the chromatin flew out. At the final stage, the apoptotic cells showed degeneration or necrosis. Apoptotic bodies were easily seen which were dense, piece-like or ball-like, naked or capsulated. In the other mode of apoptosis, pyknotic cells showed cell shrinkage, cytoplasm condensation, high electron density and gradual solidification of cell nucleus. CT scan in esophageal carcinoma is

reliable and accurate. The tumor center should be taken on simulation in order to encompass the whole tumor by the 80%-90% isodose curves. He *et al* (Lingi Cancer Hospital, Shandong) investigates the protective effect of radiated auto-blood transfusion on radiation. The incidence of acute radioactive esophagitis was 12.1% in study group and 60.6% in control group ($P<0.01$). The average dose of radiotherapy causing acute radioactive esophagitis was 4050 ± 609 (cGY) in control group ($P<0.01$). Significant change of IL-2 and T-cell subgroups was seen in study group. Low dose radiation can stimulate the body's immune function, through which the threshold dose of radiotherapy increases without damaging normal tissues.

Stomach neoplasm

To diagnose the alteration of oncogenes and tumor suppressor genes in gastric carcinomas, Cen *et al* (Affiliated Hospital of Qiannan Medical College) researched on *P53* gene mutation of biopsy samples from stomach cancer patients. The mutation rate of *P53* in exon 5-8 was 60.0% (18/30). Point mutation of *P53* was found at both early and advanced tumors. In contrast amplification of oncogenes and loss of tumor suppressor genes were correlated with poorly differentiated and metastatic tumors.

The induction of apoptosis by cisplatin (CDDP) in gastric carcinoma cell line for demonstration of a human gastric carcinoma with CDDP was investigated by Xin *et al* (Fourth Military Medical University). A human gastric carcinoma cell line SGC-7901 was cultured in full medium with various doses of cisplatin for different hours. The treated cells were examined under light microscope and transmission electron microscope (TEM). Cell cycle analysis was performed in flow cytometry (FCM). After treatment with CDDP, the cells became smaller and condensed. Their chromatin changed to periphery of the nucleus. Apoptotic bodies were observed. There were apoptotic peaks in cell cycle analysis on FCM. There were apoptotic peaks in cell were 9.3% and 14.9% after being treated. CDDP might induce apoptosis in the gastric carcinoma cell line SGC-7901 that led to the death of the cancer cell. The data of Beijing Medical University (Cao *et al*) show that antisense RNA to *bcl-2*, not only can induce apoptosis, but also reverse the biological behavior of MGC-803 cells. This would be a potential application to the gene therapy for stomach cancers. Preoperative cimetidine application can restore NK cells, which may be beneficial to reducing recurrence and metastasis (Li *et al*, Hebei Medical University). Ma *et al* (Third

Military Medical University) detected the occurrence and development of precancerous lesion of residual gastric mucosa and their relationship to gastric cancer in the gastric stump. The conventional Billroth gastrectomy is closely associated with the lesion of the residual gastric mucosa. The common manifestations of gland atrophy and proliferative lesions of the residual gastric mucosa are the important bases of the precancerous lesion, which should be paid more attention to in clinical practice. Shen *et al* (Nantong Medical College) observed the therapeutic effect of compound Shenqitang decoction on gastric adenocarcinoma after gastrectomy, and studied its inhibitory effect on gastric adenocarcinoma induced by MNNG in Wistar rats. The results shown that it has good therapeutic results in combined operative treatment of gastric carcinoma. Colonic neoplasms periphera blood (PB) T-lymphocyte subsets and natural killer cytotoxicity (NKCC) were measured in 43 patients with colorectal carcinoma (CRC) pre- and post-operatively by using the APAAP and LDH release methods respectively. The CRC patients were still in immunodepressive state in the first 2 weeks after operation, and the immunotherapy can improve the preoperative cellular immunofunction, and shorten the perioperative immunodepressive period (Liu *et al*, Taian Central Hospital). Xiao *et al* (Central Hospital in Jiangnan Oil Field) explored the therapeutic effect of chemoembolization in hepatic metastases in colorectal carcinoma. Forty patients underwent chemoembolization of metastatic liver lesion from colorectal carcinoma. Selective angiography of the hepatic artery was performed to identify the feeding vessels of the metastatic lesion. The injected chemoemulsum consisted of 100 mg 5-fluorouracil, 10mg mitomycin c and 10 ml lipiodol ultra-fluid in a total volume of 30 ml. Gel foam embolization was then followed until stagnation of blood flow was achieved. Patients were evaluated for response, overall survival, and side effects. Overall median survival time from date of first chemoembolization was ten months. Median survival time of cirrhotic patients with class A and B by Child-Pugh classification was 24 and 3 months, respectively. The difference was significant ($P < 0.01$). Patients with metastatic disease confined to the liver did better than those who also had extrahepatic disease, with median survivals of 14 and 3 months, respectively ($P < 0.02$). The median survival of patients with hypervascular metastases was longer than that of patients with hypovascular metastases. The most common side effects were transient fever, abdominal pain and fatigue. Three

patients died within one month from the procedure. The therapeutic effect of systemic chemotherapy in hepatic metastases of large intestinal carcinoma was not satisfactory and there were more side effects, whereas the therapeutic effect of selective chemoembolization was promising and there were fewer side effects. Selective chemoembolization may be an effective first-line therapy in hepatic metastases of large intestinal carcinoma. Gao *et al* (The Harrison International Peace Hospital) reported that after abdomino-perineal resection of rectal cancer (Miles), greater omentum was cut off and retroperitoneal tunnel was performed. According to the ways of greater omentum into pelvis, the tunnels had three ways (left, middle and right). Left way reaches pelvis through retroperitoneal tunnel in descending colon side dish, 6 cases; middle way reaches pelvis through retroperitoneal tunnel behind colon and on the left of spine, 35 cases; and right way reaches pelvis through retroperitoneal tunnel in ascending colon side ditch, 9 cases. Middle way is the best, which has a short tunnel, is situated below abdominal incision, convenient and easy on practice. Packing in presacral space with the pedicle greater omentum transplantation has better effects on promoting the primary healing of the perineal wound, with extensively clinical application value.

Liver and pancreatic neoplasm

Hepatic arterial branch supplying hepatocellular carcinoma (HCC) has a lower impedance than the branch not supplying HCC (Wang JG & Pan LL, Shantou Central Hospital). To study the blood AFPmRNA in the patients with distant metastasis of human HCC using nested reverse transcriptase polymerase chain reaction (nested RT-PCR) and its significance, 93 blood samples from human HCC were examined by nested RT-PCR to find out AFPmRNA by Liu *et al* (Second Military Medical University). AFPmRNA was detected in 21 blood samples from 72 human HCC (40.28%) without distant metastasis. AFPmRNA (100%) was detected in all HCC patients with distant metastasis. AFPmRNA can be used as a distant metastasis marker of HCC. Portal vein chemotherapy combined with 0.25MPa HBO can significantly reduce the tissue impairment and oxygen radical after resection of HCC. These findings may indicate that hyperbaric oxygenation plays a positive role in combined treatment for HCC (Li *et al*, Fujian Medical University). Blood AFPmRNA and AFP detection is useful in predicting relapse or distant metastasis after surgery in HCC patients (Zhang *et al*, Second Military Medical University). Para-HCC

specimens (24 cases, Group A) and noncancer cirrhosis (33 cases, Group B) were all tested by *in situ* terminal end labeling (ISEL), HBsAg immunohistochemistry and HE analysis. ISEL (+) intensity was divided into 4 grades. The results were compared between the two groups. The positivity rates and positive intensity of ISEL in Group A were significantly higher than that in Group B ($P < 0.01$). The positive cell nuclei tended to scatter just near the septa and portal tracts. The majority of Group A are of static portal cirrhosis, while Group B also included cirrhosis of chronic active hepatitis and chronic severe hepatitis. Inflammatory cell infiltration was more evident in Group B than in Group A ($P < 0.05$). The HBsAg(+) rates of both Groups A and B are very high. There were no correlation among ISEL and HBsAg, proliferation and dysphasia of hepatocyte. About half of the hepatocytes in one case of Group A underwent apoptosis identified by both ISEL and HE (Lian *et al*, Shantou University Medical College). The detection of TGF- β 1 and PCNA expressions in primary hepatocarcinoma tissues may be useful in identifying and judging the tumor-differentiation and prognosis (He *et al*, China Medical University). The ras oncogene and p53 anti-oncogene expressions of 55 pancreatic paraffin-embedded specimens, including 32 carcinomas, were studied by immunohistochemistry ABC method. Twelve specimens taken from the normal pancreatic tissue near the tumor transaction margin, 7 specimens of pancreatitis and 4 specimens of normal pancreas were compared.

The positive expression rate of ras oncogene and p53 anti-oncogene was 71.9% and 28.1% in 32 cases of pancreatic carcinomas and it is higher than that of the pancreatitis and normal pancreatic tissue near the tumor transected margin ($P < 0.05$). The ras and p53 gene expression was not significantly related to sex, age, site, size and incipient symptoms ($P > 0.05$). The p53 anti-oncogene expression was related to tumor staging and grading ($P < 0.05$). The tumor mass with negative p53 gene expression usually had a higher respectability ($P < 0.05$), and its positive expression usually associates with lymph node metastasis ($P < 0.05$), and worse prognosis. It also provided an important guidance to choose the methods of treatment. Sun *et al* (Guiyang Medical College) suggested that the ras and p53 gene expression could be used to evaluate the pancreatic cancerous biological behaviour, and it might aid the diagnosis and treatment for pancreatic carcinomas.

GASTROINTESTINAL DISEASES

The poor living condition is the sources of the *Hp* infection, and it is the main pathogenetic factor of PU and upper gastrointestinal tumor. Kang *et al* (People's Hospital of Liulin County) investigated and summarized incidence of upper gastrointestinal diseases in Liulin County. A total of 3142 patients were had *Hp* tested by urease and pathological tests. Gastric ulcer was found in 287 cases, duodenal ulcer in 245 cases, and esophageal cancer in 241 cases. The rate of *Hp* infection was 98% in gastric ulcer, duodenal ulcer and cancer of the stomach. The ratio of GU to DU was 1.17:1, including 672 PU cases, and 414 cases of malignant tumor. The incidence of PU, esophagus cancer and stomach cancer was found to be increasing. The incidence of GU in males was much higher than that in other areas reported, possibly due to living conditions and dietary habits. One hundred patients with chronic atrophic gastritis were treated with Wuji capsule. Of them, 42 were mild, 38 moderate and 20 severe atrophic gastritis and 41 and 13 accompanied with intestinal metaplasia (IM) and degree I dysphasia (Dys), respectively. The clinical manifestations were stomach pain (86 patients), fullness of abdomen (72), anorexia (90), eructation (34) and bitterness of the mouth (20). After treatment for three months the improvement of patient's symptoms, atrophy of gastric mucosa, IM and Dys were annualized. After 3 months with Wuji capsule treatment, 7 patients were recovered, 48 very effective, 34 improved, and 11 ineffective. The total efficacy was 89%, and 5 unchanged. Of the 38 patients with moderate atrophic gastritis, 17 development mild atrophic gastritis, 14 superficial gastritis, 3 became normal and 4 unchanged. Of the 20 severe atrophic gastritis, 10 turned into moderate atrophic gastritis, 8 superficial gastritis and 2 had no changes. Of the 26 patients with mild IM, IM disappeared in 20, and 6 had no changes. Of the 8 patients with moderate IM, IM disappeared in 1, 4 changed into mild IM, and 3 had no changes. Of the 7 patients with severe IM, 2 changed into moderate IM, 2 mild IM, and 3 had no changes. Of the 13 patients with degree I Dys, Dys disappeared in 7, and 6 had no changes. Hao *et al* (China Medical University) investigated the effects of different kinds of Bupleurum and Citrus on gastrointestinal motility. Choosing the two main varieties of Bupleurum and Citrus, B. Chinese DC. (B. Cdc), B. Scorzoneraefolium Wild (B.sW) and Citrus aurantium (Ca), Citrus sinensis (Cs), as the test drugs, we compared the effects of 4 drugs. Different mixtures of Bupleurum and Citrus and different dosage of the mixtures on mice gastrointestinal motility with Blue Dextran 2000 as a

marker in the gastrointestinal tract. B. cDC. and Ca had obvious enhancing effects on the gastric emptying function and small intestinal propulsion function, while the effect of B.sW and Cs had no difference with negative control group ($P > 0.05$). The effects of the gastrointestinal motility proved to be more significant than single drug and the mixture of the above two herbs decocted respectively. Li *et al* (China Medical University) investigate the influences on gastric emptying and small intestine transportation of 6 formula compositions combined with *Atractylodis ovatae rhizoma* (AOR), *Magnoliae Cortex* (MC), *Arecae Pericarpium* (AP), *Amomi Semen/Seu Fructus* (ASSF), *Galli Gigerii Endothelium* (GGE), *Massa Medicata Fermentata* (MMF), *Hordei Frutus Germinalus* (HFG) and *Carateggi Endocarpium et Semen* (ACES). The decoctions of ASSF, GGE, MMF and HFG, MC, AP, MMF and HFG; MC, AP, ASF, GGE, MMF, HFG; and the decoction of MC, AP, MMF, HFG, ACES and APR can improve the gastric emptying function. The decoction of ASSF, GGE, MMF and HFG can also promote the small intestinal transportation function. Zhang *et al* (Youhong Chinese Medicine, Huinong) analysed the therapeutic effect of Jieyu Yuyang San, Xiaqi Xiaoshi Yutong San, Yangyin Yuyang Zhentong Wan on three kinds of peptic ulcer. After the whole course treatment, 382 affective ulcer patients were recovered, 120 had evident effect, 204 improved, and 14 ineffective, with a total effective rate of 98%. A total of 450 dietary ulcer patients were recovered, 240 very effective, 108 improved, and 32 ineffective, with a total effective rate of 96.2%; and 301 mixed ulcer patients were recovered, 209 very effective, 107 improved, and 33 ineffective with a total effective rate of 95%. Symptoms disappeared in 2121 patients, and 79 patients ineffective with a cure rate of 77.6%. Before treatment, the degree I, II, III peptic ulcer was found in 720, 830 and 650 patients and 14, 32 and 33, respectively after treatment. Of 157 cases of liver cirrhotic ascites, 57 cases had upper gastrointestinal bleeding, and 100 cases had no bleeding. Complications uncluded hypersplenism, gastric ulcer, spontaneous peritonitis, hepatic coma and poor renal function. Complications in positive bleeding group were compared with negative bleeding group as controls. The positive rates of poor renal function and hepatic coma in positive bleeding group were significantly increased as compared to that in controls ($P < 0.01$). The positive rates of complications with upper gastrointestinal bleeding in ascitic liver cirrhosis were higher than non-bleeding. In order to

investigate the cause and the position of bleeding with cirrhotic ascities and search for therapeutic methods, emergency endoscopy was performed (Li *et al*, Hainan Provincial People's Hospital). Assessment of disease outcome in a large inception cohort of patients with IBD showed that the majority had symptomatic improvement over a four-year period after diagnosis and mortality from IBD related causes was low. In Europe, with present medical treatment, medium-term outcome of IBD appears favorable. The plasma concentration of nitrite/nitrate (stable end products of NO, standing for NO) and molitin of 18 patients with UC and 11 control subjects were respectively measured with Cadmium-reduction chromatography and development process (Greiss) and RIA (Radioimmuno assay). The concentration of plasma NO and MTL in UC groups were significantly higher than the controls ($P < 0.01$, $P < 0.05$, respectively). The concentration change of plasma NO in UC group significantly correlated with the change of MTL ($P < 0.05$); but there was no significant correlation in the control group ($P < 0.02$). Nitric oxide and molitin were both involved in the pathophysiologic process of ulcerative colitis. Moreover, there may be some positive interactions between NO and MTL in the pathogenesis of UC (Wu *et al*, Fujian Medical University). Hu *et al* (461st Hospital of PLA) observed the therapeutic effects of ulcerative colitis managed by integrated traditional Chinese medicine (TCM) and western therapy and compared with conventional interventions solely. The results were investigated 2 weeks afterward 39 cases cured (81.3%), 8 improved (16.7%) and 1 case ineffective (2%), i.e. 98% total effective rate in Group I. Comparatively 27 cases cured immediately (64.3%), 9 improved (21.4%) and 6 ineffectiveness (14.3%). With a total effective rate of 86.9% in Group II. Significant differences were found statistically between the two groups ($P < 0.01$). CD and UC are two forms of intestinal inflammation with possible common genetic predisposition and may be part of a spectrum, rather than two distinct disease. Induction may be non-specific. Genetic susceptibility and uptake of bacterial products perpetuate inflammation. Genetic and environmental factors are critical, but neither alone is sufficient. Progression and resolution of CD and UC are dependent on the balance of pro- and anti-inflammatory mediators. Homeostasis or chronic inflammation depends on the balance between inflammatory luminal constituents and protective mucosal factors. Specific therapy directed at an immunoregulatory defect or an inciting agent could alter the disease course. Current

therapies, such as glucocorticoids and 5-aminosalicylic acid (5-ASA), inhibit concentrations of interdependent, soluble mediators of inflammation, which may amplify one another or have parallel effects. It remains, however, to define whether targeting multi-inflammatory actions or a single key pivotal process is a better therapeutic strategy. The type of new drugs being developed include conventional pharmaceuticals, receptor antagonists-agonists, enzyme inhibitors, bio-engineered compounds (monoclonal antibodies, chimerical-targeted toxins, receptor legends-soluble receptors), and gene therapy.

LIVER, BILIARY AND PANCREATIC DISEASES

In cold weather, upper gastrointestinal hemorrhage is common in the patients with liver cirrhosis. The mechanism is that the change of temperature affects the redistribution of blood of the human body. When the weather temperature drops, the effective blood circulatory volume of shallow tissues is reduced to some extent, while that of deep tissues is increased relatively. This will raise the pressure of portal vein system and its collateral circulation. Guo *et al* (Second Military University) analyzed the relationship between cr1 genetic density polymorphism on erythrocytes and ability of erythrocytes adhering tumor cells in different groups, such as normal people, patients with HBV infection, liver cirrhosis and liver cancer. In the same population, the ability of HH type erythrocyte adhering tumor cells was significantly higher than that of HL type erythrocytes. The ability of HL type erythrocytes adhering tumor cells was significantly higher than that in LL type erythrocytes. In the same cr1 genomic type population, the ability of erythrocytes adhering tumor cells of normal people was significantly higher than that of patients with HBV infection and patients with liver cirrhosis and liver cancer. Zhang *et al* (General Hospital of Jinan Command Area) established liver injury model induced by ConA in Kunming mice. ConA was administered to Kunming mice via tail vein. The model was dose dependent; the histopathological examinations of liver specimen showed the T lymphocytes infiltration in portal areas, spot necrosis and piecemeal necrosis. With the inhibition of T cell activation by cyclosporine A (CSA), liver injury and infiltration of lymphocytes were not seen. Huang *et al* (Fujian Medical University) explored the clinical significance of serum type III procollagen (PC III), laminin (LN), prolidase (PLD) and type IV collagen in patients with liver diseases. Serum levels of LN, PC III, IV-C and PLD were helpful in clinical diagnosis of

patients with liver cirrhosis and in judgment of developing tendency in patients with chronic HBV infection. Combined determination of PCIII and LN can elevate the specificity in the diagnosis of cirrhosis. The level of γ globulin can reflect the pathology of the liver, the level of serum cholinesterase can reflect the synthetic function of the liver and is negatively related to the damage of the liver (Zou *et al*, Chinese PLA 302 Hospital). Dan *et al* (Chinese PLA 302 Hospital) reported that isolates of HCV genotype 1b between China and Japan share high similarity in NS5A nucleotide sequence. Variation in the NS5A region between amino 2209 to 2248 failed to predict IFN response in Chinese patients infected with HCV genotype 1b. Xu *et al* (Shuang Ya Shan General Hospital) reported that estradiol and HCG are related to the formation of gallbladder cholesterol stone. Sixty rabbits were randomly divided into 6 groups, in 4 of which (groups E₂, P, T, H) estradiol, progesterone, testosterone and HCG were administered separately, and normal saline and refined oil were given to the other groups (C₁, C₂) as control. The animals were sacrificed after 6 weeks. The blood, bile, gallbladder, bile duct, liver and gallstones were assayed. The gallstone formation rate was 90% in group E₂, 50% in group H and 10% in group T. No gallstone was formed in group P, C₁ and C₂. Most of the gallstones were found in female animals, only in 4 male rabbits of group E₂. The composition of stone was mainly cholesterol (Wang *et al*, Anhui Medical University). Wang *et al* (Guiyang Second People's Hospital) studied the relationship between the estrogen, blood lipids and cholelithiasis. Serum estradiol (E₂), progesterone (P), total cholesterol (TC), triglyceride (TG) were tested in 104 patients (Group A) confirmed to have cholecystolithiasis by B-mode ultrasonography and cholecystostomy and the results were compared with that of 54 normal persons (group B). Serum E₂ and P levels of the men in group A were remarkably higher than those in group B ($P < 0.05-0.01$). Serum E₂ levels of the women of child-bearing age were not different between groups A and B ($P > 0.05$), but P levels of group A were higher than that of group B. Serum levels of E₂ or P of menopause women in group A were all markedly higher than those of women in group B ($P < 0.01$). The ratio of E₂/P of women in group A was significantly lower than those in group B ($P < 0.001$). Serum levels of TG, TC and the ratio of TG/TC in persons of group A (either men or women) were all higher than those in group B ($P < 0.01$). Estrogen and lipid metabolism of

cholecystolithiasis patients are disordered. The role of oxygen free radical (OFR) and other inflammatory mediators in acute necrotized pancreatitis (ANP) was studied by Wang *et al* (Inner Mongolia Medical College). Oxygen free radicals were involved in the aggravation of ANP and were associated with the increased of serum endotoxin and PLA₂. Those mediators were positively correlated with severe multiple organ damage. The results also suggested that IL-2 could inhibit the overexpression of OFR and endotoxin, and reduce the incidence of multiple organ damage in ANP. TNF α mRNA plays an important role in ANP progression and somatostatin and growth hormone may be the effectual treatment to prevent the development and progression of multiple organ dysfunction syndrome in acute necrotized pancreatitis (Zhang *et al*, Shanghai Medical University). Zhong *et al* (Zhongshan Medical University) suggested that patients with acute pancreatitis have significantly different changes of platelet formative property from acute hemorrhage and necrotized pancreatitis, which indicates the severity of the disease. Pt has no significant change, but platelet activity was increased after SS treatment. Qin *et al* (Luoyang Second People's Hospital) evaluated the curative effects of Octreotide (Oct) on acute pancreatitis. Oct was used to treat 38 cases of acute pancreatitis, and 59 patients were treated as the control group by non-octreotide. Before and after Oct was injected, serum amylase and pancreatic fluid amylase were analyzed quantitatively for the two groups, and the incidence of complications were also compared among these patients. Oct was found to ameliorate the clinical symptoms and signs and decrease the occurrence of complications.

HELICOBACTER PYLORI

Helicobacter pylori (*Hp*) is a gastric pathogen strongly implicated in the causation of gastritis, duodenal ulcer, gastric ulcer, gastric cancer and gastric lymphoma. Almost half of the world's population or 2 billion people are *Hp* infected, making it the commonest chronic infection in men, and an important global health problem. There are several striking differences in the pattern of *Hp* infection and gastroduodenal diseases between countries of the East and West, including: *Hp* presence and characteristics; disease patterns; and host differences. These differences do not occur on the basis of geographic boundaries, but are the outcome of genetic and environmental factors in the respective populations. Strategies for the management of *Hp* infection in Asia must take these

factors into account. These differences and their implications for clinical management and health care policies in Asian countries were presented by Dr. Yeoh Khay Guan (National University Hospital, Singapore). Xu *et al* (Harbin Medical University) demonstrated that CCK-8 could antagonize the effect of morphine which inhibited the potentiation of Ache on the electrical and mechanical activities of rat duodenum *in vitro*, whereas devazepide could reverse the anti-morphine effect of CCK-8. It is suggested that the antagonistic effect of CCK-8 on morphine should be mainly mediated by CCK-A receptor, thus providing a new clue for the clinical treatment of disturbances in intestinal movement function. *Hp* infection is closely related to DU occurrence and can lead to antral gastritis. Owing to *Hp* antral gastritis, antral D cells in patients with DU decrease in number and SS synthesis (Zheng *et al*, China Medical University). Han *et al* (Chinese PLA Institute of Genetic Diagnosis) cloned the 5'-end of *cagA* (854bp) into the expression vector pBV220 and transformed DH5 α with the plasmid pBV220/*fcagA*, in which a single *CagA* fragment (FCagA) was produced when the temperature reached 42°C. After being renatured, FcagA was purified by anion exchange and sephadex G-100 chromatography. The FcagA had a relative molecular weight of 38 000. With the prepared FCagA, colloidal gold, and immunogold, they established the dot immunogold filtration assay (DIGFA) to detect anti-*CagA* antibody in serum. FCagA had the similar antigenicity as *CagA*. The test of DIGFA took only a few minutes and could also be done for one or more persons with no need for special equipment. Compared with EIA, DIGFA had the sensitivity of 96.8%, and the specificity of 98.5%, when the sera of 262 cases were tested. One hundred and sixty-six patients completed all the study. The eradication rates were 84.2% in group A and 72.2% in group B ($P < 0.05$). There was no significant difference in both the *Hp* eradication rate and healing rate of the ulcer patients between the two groups. More side effects occurred in group B than in group A, which still could be tolerated by the patients. The cost of group A is higher than that in group B (RMB 820.78 vs 418.04). Considering the effectiveness and cost, OCA therapy is more suitable for gastritis patients. For ulcer patients, RTA therapy is as effective as OCA therapy (Wang *et al*, Shanghai Zhongshan Hospital). Gastrin (Gas) and somatostatin (SS) of gastric mucosa and blood in patients with *Hp* positive group were significantly higher than *Hp* negative group and became normal after *Hp*

eradication. The SS contents in *Hp* positive group were significantly lower than *Hp* negative group and became normal after of the *Hp* eradication. On the other hand, Gas and SS contents of the mucosa significantly altered with chronic and active inflammations. Zhang *et al* (China Medical University) studied the sensitivity, specificity and clinical applicatia of ^{14}C urea breathing thes of *Hp* infection. All the 150 cases (40 cases of chronic gastritis, 30 cases of gastric ulcer, 50 cases of duodenal ulcer, 20 cases of gastric carcinoma, 8 cases of polypous gastritis, 2 cases of portal hypertensive gasteopathy) were examined by fibrogastroscopy and confirmed by biopsy pathology, 15 cases of duodenal ulcer and 5 cases of gastric ulcer were treated with PPI therapy for 1 month, then a comparison between the pretreatment and posttreatment was made, ^{14}C urea was calculated by scintillators. The results showed that the *Hp* infection rates of chronic gastritis duodenal ulcer and gastric ulcer and gastric carcinoma had no statistical difference with the method of ^{14}C -UBT; there was no difference in ^{14}C -

UBTY radioactivity value between chronic gastritis and duodenal ulcer; the incidence of chronic gastritis accompanied with gastric mucosal erosion atrophy and enterometaplasia was significantly higher than that of simple chronic gastritis ($P < 0.05$); after one-month bactericidal treatment, the bactericidal rate reached 100%. In conclusion, this brief glimpse into the science and practice of gastroenterology in the next century offers us a mixed perspective, one of an ever-widening disparity between rising opportunities in the one hand, and restrained resources on the other. We are afraid that unless this serious dilemma will be resolved early in the next century, the practice of gastroenterology and the quality of health care will cut expenses by voluntarily reducing our dependence on technical procedures and expensive equipment, and by avoiding use of only marginally effective medications and surgical interventions. These, we believe, will be painful adjustments for the medical establishment, but they must be faced in the coming century.