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Oral gallbladder removal could replace conventional surgical methods

A team of physicians at Northwestern Memorial Hospital (IL, USA) have removed a patient's gallbladder via the mouth utilizing a technique used only once before. The technique is known as laparoscopic-assisted natural orifice translumenal surgery (NOTES) and it is thought that it may pave the way towards completely incisionless surgery.

"NOTES holds the potential to not only mitigate the pain and discomfort associated with traditional procedures, but may eventually reduce a patient's recovery time to as little as 1 day by eliminating incisions through the nerve-filled abdominal wall," said Nathaniel Soper, the Northwestern Memorial surgeon who, alongside colleagues Eric Hungness, Assistant Professor of Surgery at the Feinberg School, and John Martin, Director of Endoscopy and Associate Professor of Medicine and Surgery at the Feinberg School, performed the procedure in August.

Conventional surgical gallbladder removal is performed via abdominal incisions. Soper says factors contributing to the growing interest in incisionless surgery include the fact that the stomach and GI tract have very few nerves that register pain. Potentially, in the future this would allow NOTES procedures to be carried out under sedation, rather than general anesthesia.

"This evolutionary step towards an incisionless surgical technique could reduce costs, speed recovery and reduce pain," adds Hungness. "I see incisionless approaches applying to a wide range of procedures in the future."

Martin explained that surgeons have been exploring the concept of natural orifice surgery for years but, until now, endoscopic devices have not provided a suitable platform for it. The Northwestern team was, however, able to utilize the EndoSurgical Operating SystemTM by USGI Medical and endoscopic equipment made by OlympusTM. By using this stable operating

platform, instruments can be manipulated to view, cut, grasp and suture tissue without ever cutting into the skin. Such incisionless surgery would eliminate all visible scars and much of the pain that may occur as a result of abdominal incisions.

For this case, three small laparoscopic ports were used in conjunction with the endoscopic system

in order to assess the safety of the procedure and to assist in refining the technique. Current risks include complications as a result of incorrect suturing of the incision that is created in the stomach. The team expects to gradually eliminate these external ports in future procedures.

Source: www.nmh.org

Increasing demand for second- and third-line hepatitis C virus treatments

According to a report from Decision Resources, one of the world's leading research and advisory firms focusing on pharmaceutical and healthcare issues, approximately half of hepatitis C virus (HCV) patients do not achieve a sustained virologic response or are not able to tolerate current first-line treatment.

The report includes a detailed, annual patient forecast model of the HCV population from 2006 to 2021, including incidence- and mortality-based estimates and the number of patients eligible for first-, second-, third and fourth-line treatment by genotype and the impact of novel, more effective therapies on the epidemic and treatment-eligible populations. In addition, the HCV patient flow model is flexible, allowing the user to adjust variables according to different scenarios.

The report entitled *Hepatitis C Virus Patient Flow Model and Treatment Algorithm*, found that although current treatments can cure HCV, they do so only in approximately half of patients receiving therapy. In addition, there is a dearth of efficacious second- and third-line therapies and HCV is not a highly fatal disease. These factors combined have led to an accumulation of patients who are awaiting the launch of a novel therapy and represent an important segment in the HCV market.

"A sizeable cohort of the HCV-infected patients is aging, developing progressive liver disease, and is awaiting the introduction of several innovative new therapies in late-stage development," said John Lebbos, therapeutic area director at Decision Resources. "However, over the longer term, the size of the candidate population for treatment will be limited due to the dramatic decreases in the incidence of HCV that have been achieved as well as the improved efficacy of novel agents."

Source: www.DecisionResources.com

Trial set to explore the brain-gut relationship in functional dyspepsia sufferers

A new NIH-funded study will investigate the brain-gut relationship and assess the effect of amitriptyline and escitalopram on the alleviation of the painful symptoms of functional dyspepsia. Functional dyspepsia, meaning difficult digestion of unknown etiology, is a chronic and costly disease. The symptoms

include severe stomach pain, such as cramping, bloating, flatulence and discomfort or fullness following eating.

The Functional Dyspepsia Treatment Trial (FDTT) will investigate if either of two US FDA-approved drugs, which act on both the brain and the gut, is better than placebo in relieving the symptoms of functional dyspepsia. The study will also investigate whether specific genes are able to predict treatment response. The investigators will perform a 6-month follow-up to determine if the medication provides a continued response.

Dyspepsia affects many people and can often be attributed to lifestyle factors, such as smoking and diet, but there are some serious causes such as cancer of the stomach, peptic ulcer disease and some medications. Functional dyspepsia, however, is the term applied when no specific cause has been found for the symptoms. These symptoms are thought to be the result of abnormal muscle activity within the stomach, possibly due to abnormal sensitivity of the nerves in the stomach, or irregular signals from the brain to the muscles in the gut. "While we do not know the exact cause of functional dyspepsia, we do know that the disorder can cause chronic and sometimes debilitating symptoms that can have a dramatic effect on the quality of life for functional dyspepsia suffers," said Patricia Robuck, project scientist for FDTT. "We are interested in learning more about the brain-gut interaction and physiological effects of these two similar but different classes of drugs on the symptoms associated with functional dyspepsia."

The current treatment for functional dyspepsia is, at best, limited. Food restriction, and antisecretory drugs and prokinetics are prescribed,

which assist the stomach to empty faster. Some patients turn to alternative medicines and therapy – the effectiveness of which remains undetermined.

Smaller trials have demonstrated drugs, such as amitriptyline and escitalopram, to be effective

in adults with functional dyspepsia. "We are excited by these early findings," says Nicholas J Talley, Chair of the trial and chair of the Department of Internal Medicine at the Mayo Clinic (FL, USA). "If it turns out that these drugs correct stomach emptying, stomach retention, and overall motility, we could help improve the quality of health and life for the millions of people with functional dyspepsia."

The NIH-funded trial will recruit 400 patients of all ages for whom current antisecretory therapy has been ineffective.

Source: www.nih.gov

Climate change may be impacting on the emergence of cholera in Africa

Cholera is a severe diarrheal disease caused by the bacterium *Vibrio cholerae*. In 2004, 101,383 cases – including 95,000 solely for the African continent – and 2345 deaths were reported to the WHO. Through the increased frequency of torrential rain, floods and periods of drought, it is believed that global climate change has, over recent years, been contributing greatly to the spread of cholera.

The *V. cholerae* bacterium is harbored by zooplankton, the growth of which follows that of phytoplankton, which is directly related to climatic variations. However, there are a range of factors that act on climatic conditions and they are difficult to study. Certain parameters vary depending on the regions of the world, while others act on the global scale. Therefore, in order to more fully appreciate the interaction between the climate and the emergence of cholera region by region, further studies must be conducted.

Although research has been ongoing in certain countries, such as Bangladesh and South America, until now few studies have been conducted in Africa. Yet it is in Africa that the public health situation is cause for the most concern.

Researchers from the Laboratoire de Génétique et Evolution des Maladies Infectieuses (GEMI), are the first to look at the link between cholera outbreaks and climatic data in five West African countries (Togo, Ivory Coast, Ghana, Benin and Nigeria). The team compared epidemiological data from 1975-1995, in these countries, and parameters of local and global climate variations. They found the factors most involved were the volume of rainfall and the Indian Oscillation Index (IOI) - an indicator of the global climate variability constructed from variations in atmospheric pressure in the Indian Ocean.

The team were successful in finding a correlation between the number of new cases of cholera, and the global climate variability index, and then for monthly rainfall readings between 1989 and 1994. During that time, epidemics

occurred at a frequency of 2-3 years, except for the Ivory Coast. This finding significantly correlated with the IOI and annual rainfall regime.

Over the coming years, the results of this research work should contribute to the creation of an early warn-

ing system that takes climatic parameters into account for prediction of cholera epidemic dynamics. The warning system will enable the organization of prevention actions, such as drinking water filtration schemes, and the planning of care provision for people by supplying medical kits and rehydration kits. This kind of approach could also be applied to the understanding and prevention of other climate-sensitive illnesses such as malaria, dengue and other vector-borne diseases.

Source: www.ird.fr

AGA sets standards for computed tomography colonography

The American Gastroenterological Association (AGA) have issued a minimum standard of 75 endoscopically confirmed cases of colorectal cancer (CRC) to be performed by a physician for them to be considered competent. The new standard has been set in response to the critical need to increase CRC screening to ensure cases are caught and treated as early as possible. At present CRC is the second leading cause of cancer death in the USA.

Computed tomography (CT) colonography is not yet used as a primary screening test in normal risk adult patients; however, a number of patients have expressed an interest. The indications for the test are controversial and it has been suggested to be indicated only in patients who have failed optical colonoscopy or whose colon is obstructed and examination required prior to surgical resection.

"Because of our specialized training, gastroenterologists are experts in CRC screening and colorectal disease. It follows that if patients want a 'virtual colonoscopy' it may be highly appropriate to see a qualified gastroenterologist for the test," notes Don Rockey, Chair of the AGA Institute Task Force on CT Colonography. "As CT colonography technology is evolving, it is important to check that your physician has been properly trained to ensure that the test is performed and interpreted accurately."

Following formal training for CT colonography for gastroenterologists, which consists of interpretating a minimum of 75 tests, the AGA Institute Task Force on CT Colonography, recommends that physicians continue their training. This continued training involves a mentored CT colonography

preceptorship with the candidate physically present in and involved in interpreting a further 25–50 cases. Furthermore, physicians involved in performing CT colonography will undertake continued training and self assessment such as formal accredited courses.

The AGA Institute Task Force on CT Colonography recommendations are available in the September issue of *Gastroenterology*.

These recommendations along with those from additional professional societies, such as the AGA Institute, highlight the need for CRC screening for everyone over the age of 50 years.

The AGA Institute will host a course on CT colonography for gastroenterologists on March 7-8, 2008, in Washington (DC, USA).

Source: www.gastrojournal.org

Discovery of potential genetic link for primary biliary cirrhosis could lead to early treatment

Mayo Clinic (MN, USA) researchers have uncovered a potential genetic link for primary biliary cirrhosis (PBC), as first-degree family members of sufferers are more likely to have the biomarker for the disease present in their blood. This discovery will allow for early diagnosis and treatment of first-degree relatives of PBC patients before complications become irreversible.

PBC is a chronic liver disease, primarily affecting women. The bile ducts of sufferers are gradually destroyed resulting in the dangerous build up of toxins in the liver, which can lead to fibrosis and liver failure. The problem for diagnosis of PBC is that more than half of patients are symptom free.

The study tested for the biomarker, antimitochondrial antibodies, in the blood of 306 first-degree relatives of PBC sufferers and healthy adults. The prevalence for the disease in relatives of sufferers was 13.1%, while only 1% in the control group. The prevalence was even higher in female relatives: 20.7% in sisters, 15.1% in mothers and 9.8% in daughters. Although the biomarker does not confirm the presence of disease it does indicate a predisposition to develop it.

"Most PBC patients have no symptoms, but early detection is important because timely treatment can slow the progression of the disease before liver failure occurs." savs Konstantinos Lazaridis, the study's lead author and a hepatologist at Mayo Clinic. "Because collectively one in five sisters of a PBC patient has antimitochondrial antibodies in their blood, we think it is worthwhile to screen first-degree relatives, particularly those older than 40 years, for this biomarker. It is a simple, inexpensive blood test that could lead to earlier diagnosis and treatment - and ultimately, better outcomes for PBC patients."

According to Lazaridis, the study's findings regarding antimitochondrial antibodies in PBC relatives could also be important in better understanding the known genetic predisposition to PBC.

His research team plans to continue screening and monitoring firstdegree relatives of PBC patients over many years to further examine these findings and to shed light on the cause of this disease.

These findings were published in the September issue of *Hepatology*.

Sources: www.mayoclinic.com; www.interscience.wiley.com/journal/hepatology

Diarrhea care could save 1.5 million children

Although there have been numerous global efforts to confront the disease, diarrhea is still the cause of an estimated 2 million deaths in 0-4 year olds, annually. This data comes from a doctoral thesis published by the Swedish Medical University Karolinska Institutet. It is children from both middle- and low-income countries who appear to be affected the most. "Research shows that around 1.5 million children suffering from diarrhoea can be saved every year with the right treatment," says Birger Forsberg, who has worked with international health issues for the last 30 years.

In the 1980s, the WHO initiated a special program to reduce diarrhearelated mortality. The main reason for death was shown to be dehydration. As such, the use of rehydration solutions with sugar and salt additives, in order to increase fluid intake, were advocated. While this has had a positive impact, the desired results have not yet been attained. "Even now, in the first decade of the 21st Century, my thesis documents that more than 200 million children suffering from diarrhoea may still be deprived of this treatment", says Forsberg. "In the 1970s, when rehydration solutions had their medical breakthrough as a treatment for diarrhoea, no one thought that it would be so difficult to spread its use."

Several explanations for the lack of adequate and effective adoption of diarrhea management are presented in Forsberg's thesis. It could be that the information has not reached the people in need, or that they are receiving conflicting messages. Furthermore, it could be that due to poverty families are unable to take care of their sick children, although they may have the know-how. "Giving rehydration solution to a child with serious diarrhoea is a 24-hour commitment in the most acute phases, something which might have to make way for other priorities in households with scant resources," remarked Forsberg. "We also have to realize that childhood diarrhoea in many areas is just as common as a cold amongst children in Sweden. This may not keep caretakers on alert when their children contract diarrhoea."

"It's obvious to us that much still need to be done to improve the care of children with diarrhoea and to reduce the number of child deaths from diarrhoeal diseases," Forsberg concluded.

Source: www.ki.se

About the News in Brief

The News in Brief highlights some of the most important events and launches in gastroenterology and hepatology research. The editorial team welcomes suggestions for timely, relevant items. If you have newsworthy information, please contact:

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