A Novel Air/Water Retention Device for Improved Visibility in Colonoscopies

Tech ID: 29007 / UC Case 2017-319-0

BACKGROUND

Colon cancer is the third most common cancer diagnosed in men and women in the United States. It is also the third leading cause of cancer-related death in women and the second leading cause in men. Colonoscopy has been an important tool for screening and prevention of colon cancer. During this procedure, precancerous polyps called adenomas can be removed. Annually, over 15 million colonoscopies are performed each year.

A colonoscopy is recommended for adults over the age of 50 in the US to screen for colon cancer. During a colonoscopy, a camera at the end of a flexible tube is inserted into the anus and advanced approximately four feet with the aid of water or air insufflation. Upon withdrawal, the colon is inflated with air to visualize the lining and detect polyps. A good quality exam is dependent on the ability of the anal sphincter muscles to hold water or air in the colon and prevent it from collapsing and obscuring views. There is currently no device available to create a seal in the anus in patients with weak anal sphincter muscles. Weak anal sphincters can occur in patients with history of anorectal surgery, childbirth or increasing age and makes up a growing number of patients undergoing colonoscopy.

TECHNOLOGY DESCRIPTION

Researchers at UC San Diego have developed a device to create a tight seal for air and water during colonoscopy in patients with weak anal sphincter muscles. This Air/Water Retention Device (ARD) is disposable and can be attached onto the colonoscope at the start of or during the procedure due to its design. It stays in the anal canal during the procedure and has been shown in preliminary studies to be safe and effective.

APPLICATIONS

For use in colonoscopies

ADVANTAGES

The device will aid in the efficiency of colonoscopies in patients with weak anal sphincter muscles as well as improve the visualization of the lining and therefore detection of adenomatous polyps.

STATE OF DEVELOPMENT

A prototype device has been developed and has been tested in animal studies (pigs). Upon University board approval, the product will be tested and verified in human patients.

INTELLECTUAL PROPERTY INFO

A provisional patent has been submitted with plans for submission of a PCT in the future

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OTHER INFORMATION

KEYWORDS

Colon cancer, colorectal polyps, colonoscopy, anal canal, imaging, visualization, endoscopy

CATEGORIZED AS

- **Medical**
  - Devices
  - Disease: Cancer

RELATED CASES

2017-319-0

PATENT STATUS

Country	Type	Number	Dated	Case
Patent Cooperation Treaty	Published Application	2019055575	03/21/2019	2017-319

Additional Patent Pending

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