

ERBE Electromedizin GmbH, Germany

What is Argon Plasma Coagulation (APC)

The Argon Plasma Coagulator (APC) is a non contact electrocoagulation device that uses high frequency monopolar current conducted to target tissues through ionized argon gas to achieve hemostasis or tissue ablation. The argon plasma is created by passing argon gas down the delivery catheter while the electrosurgical generator delivers precise amount of current to the exposed tungsten electrode inside the tip of the delivery catheter. The charged Argon beam directs itself independent of gas flow direction towards the tissue of offering least resistance. As soon as the target tissue is desiccated the resistance of this tissue increases and the ionized argon beam seeks to ground itself in adjacent tissue. This limits the coagulation depth to 2-3 mm eliminating the risk of perforation and permits coagulation of large areas of diffuse bleeding via coagulation in "paint brush pattern" or in a spitting fashion.

Basic advantage of APC is its being non contact method of hemostasis. During management of active bleeder this is a big advantage as any experienced GI Endoscopist will agree.

When is Argon Plasma Coagulation APC used ?

Though APC has many uses in different specialities, its role in Gastrointestinal Endoscopy is well established in following conditions

1. GASTRIC VASCULAR ANTRAL ECTASIA (GAVE)
2. RADIATION PROCTITIS
3. HEMOSTASIS FOR BLEEDING ANGIODYSPLASIAS / DEULAFOY'S LESION
4. HEMOSTASIS FOR BLEEDING DUODENAL / GASTRIC ULCERS
5. ABLATION OF DYSPLASTIC BARRET'S ESOPGHAGUS
6. HEMOSTASIS OF POST POLYPECTOMY BLEEDING STALK
7. HEMOSTASIS FROM BLEEDING BIOPSY SITE
8. POST VARICEAL BAND LIGATION RESIDUAL VARICES AND / OR ULCERATED VARICES
9. ABLATION OF TUMOR INGROWTH THROUGH ESOPHAGEAL METAL STENTS,
10. EXTRACTION OF METAL STENTS
11. STENT SHORTENING OR TRIMMING OF DISPLACED OR WRONGLY PLACED STENTS

12. SPORADIC USE OF APC HAS ALSO BEEN REPORTED FOR ENDOSCOPIC TREATMENT OF ZENKER'S DIVERTICULUM & FOR BLEEDING SOLITARY RECTAL ULCER

What is the Cost of Argon Plasma Coagulation (APC)?

Cost of APC with us is Rs 8000/- per session. For some indications single session is enough. For other indications more than one session may be needed over time. Sedation or anesthesia if needed is charged separately from Rs 500/- to Rs 4000/-. If patient requires hospitalization it is charged separately.

What is the preparation for patient who has to undergo Argon Plasma Coagulation (APC)?

Depending on where APC is to be done. In UGI tract preparation is like any UGI Endoscopic procedure ie patient has to be fasting for minimum 6 hrs before the procedure. If APC is to be performed through the colonoscope , preparation for colonoscopy using PEGLEC / COLOPEG (1-2 pkts dissolved in 2-4 lts water to be consumed over 1 hr) at least 4 hrs before the procedure is mandatory.

How long does the patient need to stay for Argon Plasma Coagulation (APC)?

Usually this is a daycare procedure and patient goes home after 1 hr following the procedure. Hospitalization if needed before or after the procedure is charged separately.

What are the complications of Argon Plasma Coagulation (APC)?

Pain usually is not a problem . Due to the peculiar innervation of the GIT it is not possible to experience pain directly during APC. Pain usually will occur if APC is used in distal part of anal canal below or near the Dentate line or slightly above it. Sometimes muscle spasm of anal sphincter when APC is used near Dentate line may cause pain. Neuromuscular stimulation due to APC may cause pain. Excessive distension due to gas or too much manipulation with endoscope may cause pain. Post interventional odynophagia (painful swallowing or retrosternal pain) may occur following APC for ablation of Barrett's Esophagus.

Gas Emphysema is a rare problem which is due to reversible collection of Argon Gas in area of target tissue and it has no pathological significance.

Deflagration / Gas Explosion is a rare complication of use of any electrosurgical device in colonic lumen due to presence of inflammable gases in lumen. For this reason good preparation of colon is important before any therapeutic procedure including APC. Using

standard operating precautions and good quality machine these complications can be avoided.

Rarely perforation can occur with use of APC despite its physically limited depth effect .

ERBE Electromedizin GmbH, Germany are the world leaders in this technology and use of the best equipment in the world assures precise amount of energy being delivered at precise spot. This helps prevent complications. Though much cheaper alternative machines are in the market but all major GI Endoscopy centers/institutes in India and abroad depend on ERBE for their therapeutic need. The difference between a local cautery machine with APC and ERBE can only be understood once it is used.

When can Argon Plasma Coagulation (APC) be done at Hope Clinics?

We do the procedure on all working days. Patient can approach between 8.00 AM to 8.00 PM on any working day for appointment. Alternatively patient can come on any working day for procedure without appointment before 12.00 noon. Usually patients will be able to go home by 5.00 PM on same day. Phone nos 2707935, 2706024, 5087794, e-mail; hopeclinics@yahoo.com. Telephonic appointments are however subject to change.

Other facilities available at Hope Clinics?

Therapeutic UGI Endoscopy, Colonoscopy, ERCP, Variceal band Ligation, Foreign Body removal, Glue injection for fundal varices, Clip application for bleeding ulcers, esophageal dilatation, SEME placement for inoperable esophageal , duodenal and pancreatobiliary cancer, pancreatic pseudocyst drainage, Infra Red Coagulation (IRC), Endoscopic Hemorrhoidal Band Ligation, Cryotherapy, Stapled and open hemorrhoidectomy Obstetrics & Gynaecology, hysteroscopy, laproscopic hysterectomy infertility, cancer surgery General, laproscopic gastrointestinal surgery.

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Member; American Society of Gastrointestinal Endoscopy (ASGE), European Society of Gastrointestinal Endoscopy(ESGE), Indian Society of Gastroenterology(ISG), Society of Gastrointestinal Endoscopy of India (SGEI), Indian National Association for Study of the Liver (INASL)