

The Cooperation of ERCP And Corresponding Nursing

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Abstract: Objective: To summarize the preoperative preparation, under-operative cooperation and postoperative nursing when applying ERCP, discuss the nursing gists and issues that need attention. Method: Treating 63 patients, who accept ERCP, visting this hospital in March 2011 to March 2012 as the study objective, first use ERCP for diagnosis, based on which they are applied EST, ENBD and other operative treatments. After the operative treatment, we, according to different treatment methods, count the number of successful treatment cases and emergent complication cases. In the end, we investigate the satisfaction degree which sufferers feel to the operation and care, then conclude the investigation results. Results: 20 cases are subject to ERCP disgnosis, all successful, without any postoperative complication, the satisfaction degree of sufferers is 95%; 25 cases are subject to ERCP+EST, 24 of which are successful, 2 of which accompany cholangitis, 1 of which accompanies hemorrhage, the satisfaction degree is 96%; 18 cases are subject to ERCP+EST+ENBD, 15 of which are successful, 2 accompany cholangitis, no hemorrhage, the satisfaction degree is 88.9%. Conclusion: The ERCP is of vital value to the diagnosis of most of gallbladder diseases, the adequate preoperative preparation, under-operative cooperation and proficiency, and postoperative survey of state of illness are very important for the successfully operation, alleviating the suffering of patients, shortening the recovery hours and so on.

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Endoscopic Retrograde Cholangio Pancreatography (ERCP) refers to a Pancreatography which uses endoscopic duodenal papilla intubation and infuses contrast media to show Cholangio, providing vivid image of biliary duct^[1], which is a recognizable good method to treat gallbladder disease^[2]. Based on ERCP, we further apply duodenal papilla EST, ENBD, inserted inner support to intervene the bile duct diseases. These operations have such requirements to visiting doctors as superduper technology, extensive experience and cooperation in operation, postoperative nursing of state of illness, all these requirements are the key to successfully operation. This hospital, based on this idea, has a conclusion of ERCP diagnosis and nursing during operative treatment, now reporting the results as follows:

1 Data and method

1.1 Subject investigated

63 patients (36male, 27 female) treated with ERCP in this hospital are selected as the subject investigated, aged from 27 to 75, 49.5 on average. There are 16 patients suffering from choledocholithiasis, including 2 suffering from cholangitis with seriously symptom, 3 suffering from great calculus in choledochus, 1 suffering from gallcalculus. There are 3 patients suffering from cancer of biliary duct, 4 patients suffering from cancer of biliary duct Type I, 2 patients suffering from cancer of biliary duct Type II, 4 patients

suffering from narrow bile duct. All patients are found no gastroscopy contraindication prior to the ERCP inspection, no severe cardiac sickness. There are 20 patients subjecting to simple ERCP inspection, 25 patients subjecting to ERCP+EST treatment, 18 patients subjecting to ERCP+EST+ENBD treatment.

1.2 Selection of instrument and material

We select the Olympus TJF - 160VF type electronic duodenoscope as the endoscope, select the matched standard conduit, papillotome (product standard: YZB / GEM1368 - 2005), RF generator (Olympus CLE - 10), removal basket, crushing basket, balloon catheter, naso-biliary, plastic bracket and other equipments needed for endoscopic examination^[3].

When getting the instruments, first, we inspect whether the instruments are damaged and the function is good or not; the duodenoscope, prior to application, should be disinfected for 15min with oxidation potential water; the papillotome, basket and conduit should be sterilized using oxirane before washed by normal saline for disinfection; the intracavitary bleb of conduit should be removed to ensure the regular service of the instruments.^[4] The 76% cardiografin, after diluted to 40%, is added the antibiotic to serve as the contrast media.

1.3 Treatment method

All patients are subject to ERCP, first, let patients keep prone position, put a soft bolster on the

right breast of patients so that they feel comfortable. After that, insert duodenoscope into the descending part of duodenum, find out the position of duodenal papilla, insert the angiography catheter^[5], infuse contrast media, then observe the shape of patients' duodenum, observe through image whether or not the pancreas, bile duct, gallbladder are subject to pathological changes.

According to inspection results, we can judge which operative treatment we can select. The mechanical lithotripsy should be done under X-ray, then use basket net basket or conduit to take out the calculus. If the duodenal papilla is found suffered from distinct dropsy, it is needed to apply duodenal papilla EST; as for pancreatitis showing biliary or, cholangitis showing purulence, it is needed to apply ENBD; as for large calculus, it is needed to apply ERBD; as for cancer of biliary duct, it is needed to apply double bracket drainage; as for carcinoma of head of pancreas, it is needed to apply pancreatic bracket drainage.

2 Conclusion

2.1 Results of operation

According to the status of patients, upon ERCP examination, it is certain that there are 20 patients subjecting to simple ERCP examination, 25 subjecting to ERCP+EST, 18 subjecting to ERCP+EST+ENBD. During treatment, we calculate the success rate of patients for each treatment method, the number of patients suffering from postoperative complication, pancreatitis and hemorrhage. Of 63 patients, 58 have no complication and leave hospital after recovery. 4 patients were suffered from slight pancreatitis, suggested to fasting diet, then treated with ENBD, restrained the pancreatic secretion, combined with anti-inflammatory drug before leaving hospital at the time of final recovery. 1 patient was suffering from hemorrhage, taking hemostasis drug for timely hemostasis before leaving hospital after recovery. The statistical results are shown in Table 1.

Table 1. Operational results and complications

| Operating method | Cases | Successful cases | Successful (rat) | cholangitis (cases) | hemorrhage (cases) | complication ratio (%) |
|------------------|-------|------------------|------------------|---------------------|--------------------|------------------------|
| ERCP | 20 | 20 | 100 | 0 | 0 | 0 |
| ERCP+EST | 25 | 24 | 96 | 2 | 1 | 12 |
| ERCP+EST+ENBD | 18 | 15 | 83.3 | 2 | 0 | 11.1 |

2.2 Degree of satisfaction of patients

After the operation, we will have a statistic and investigation of satisfaction of all patients to the treatment and nursing, mainly divided into three classes: very satisfied, satisfied, not satisfied. The statistical results are given in Table 2. As viewed from Table 2, the patients have a higher satisfaction over ERCP treatment method, which can be inherited and improved in future treatment.

Table 2 Investigation of satisfaction degree of patients

| Operating method | Cases | Very satisfied (cases) | Satisfied (cases) | Not satisfied (cases) | Degree of satisfaction (%) |
|------------------|-------|------------------------|-------------------|-----------------------|----------------------------|
| ERCP | 20 | 15 | 4 | 1 | 95 |
| ERCP+EST | 25 | 21 | 3 | 1 | 96 |
| ERCP+EST+ENBD | 18 | 15 | 1 | 2 | 88.9 |

3 Under-operative cooperation and nursing

3.1 Under-operative cooperation

Although ERCP technology is increasingly mature, the clinic development increases with years, however, the incidence of complication after ERCP does not dramatically decline^[6], so we should lay stress on the under-operative cooperation in ERCP for the reason the operation can not be completed only depending on one person. During assisting the doctor in the operation, it needs to assist the patents to fix

well the occlusion rim to prevent the occlusion rim from shedding due to nausea during endoscopic examination. In the meanwhile, we should pay attention to the physiological reaction of patients, if any abnormal circumstance occurs, it should be told to the doctor for the purpose of monitor and first aid^[7].

When the endoscope is sent to the duodenal papilla of a patient, the nurse on one side needs to observe the papillary size so as to decide the concrete type of papillotome. As for lesser nipple, we should

select the forepart thinnish angiography catheter which can not be subject to buckling when handed to the doctor. When the angiography catheter is sent to the forepart of endoscope, we may use the diluted contrast media to fill catheter, when the conduit is inserted to the bile duct, the nurse should have a close surveillance and slowly infuse the contrast media for graphy. If the Cholangio-pancreatography is found, the dose can be increased to some extent, aiming to get a more clear Cholangio-pancreatography. If the Pancreatography is found, the dosing should be stopped, at the same time, the drug should be sucked out to avoid pancreatitis due to the large pressure in pancreatic duct. If the calculus is found, the nurse should have a surveillance of X-ray, concurrently send slowly the guidewire by the method of twining; the doctor needs to guide and adjust the position of guidewire until the guidewire is sent to the calculus. This course can embody the cooperative degree between the doctor and the nurse, if failing in the cooperation, the guidewire may shed outside the nipple^[8].

When the guidewire reaches the good place, the doctor can select the incisal position, after that, the nurse should connect the high frequency electrical conductor with the electric knife, slightly frap for sunderring the calculus, during which the nurse should at all rates keep well the tightness degree of electric knife in hand, neither too tight nor too loose, if too tight, prone to forming a large incision, if too loose, resulting in powerless incision. After the successful incision, the nurse will hand the calculusremoved basket to the doctor; under the X-line surveillance, the doctor will send the basket to the incision position, then open and vertically hunt the basket, aiming to let the calculus fall into the basket, after that, slowly frap the basket and send it to he duodenum before loosening it such that the calculus falls into the duodenum.

If the concretion is large, it needs to first send the crushing basket for crushing, then pull the broken calculus and crushing basket together to the nipple position. If the concretion is small, a balloon catheter will be inserted over the calculus, then remove the calculus after ventilating the gasbag. After all calculuses are removed, place a naso-biliary for drainage, which should be done as follows: slowly insert the guidewire into the naso-biliary, send it to a good place, concurrently, under the X-line surveillance, keep position-invariance of nasal tube, slowly withdraw endoscope, connect tothe drainage tube and keep clear.

3.2 Postoperative care

3.2.1 Common nursing

After the operation, let patients have a bed rest for 12-20m, fasting diet for 5h. The nurse should pay a close attention to changes of all physiologic signs of patients, measure temperature, pulse, blood pressure. 5h later after the operation, timely exsanguinate and assay for the patients, examine the contents of amylase in urine, if any abnormality, timely report it to the doctor in charge of a case. Exhort the family of patients to record the vomit number of patients, the concrete bellyache position and bellyache degree; the doctor, according to practical situation, tell the patients the dossage of antibiotic. If accompanied pancreatitis, it needs to dose to restrain the secretion of pancreas. During fasting diet of patients, let patients usually gargle to keep oral hygiene.

In the meanwhile, the psychology of patients after the operation is still in undulation, so stabilize the patients' emotion timely such that they accept the situation after the operation, which is conducive to the recovery of patients^[9].

3.2.2 Drainage nursing of naso-biliary

For the reason it needs to continual intubation and graphy during ERCP examination, EST and ENBD operation, the duodenal papilla of patients may suffer from mechanical damage to some extent, the pancreatic duct and bile duct come itno a high pressure status, thus activating substantive pancreatin and generating substantive liquid. So it needs to restrain the pancreatic secretion to prevent from the occurrence of pancreatitis. In postoperative nursing, it needs to fix well the naso-biliary and drainage bag in a good place to prevent them from shedding. During drainage, whether or not naso-biliary is washed depends on requirements, always keep the drainage tube clear. The nurse should pay close attention to the color change of drainage liquid of drainage tube and record it. During drainage, it needs to make up water electrolyte to maintain electrolyte balance.

3.2.3 Complication nursing

In this study, the primary postoperative complication is the cholangitis and hemorrhage. The cholangitis is caused by the infection in bile duct due to inadequate disinfection of instruments, the contamination of duodenoscope and gi tract, excessive injection of contrast media which result in bacteria of bile flows into the bile duct.

In this study, there are 4 cases accompanined cholangitis, the infection of which should be paid close attention because severe patients may bring on shock. So in postoperative nursing, it needs to pay close attention to the temperature, bellyache, and examine the change of blood routine examination.

Once infection is found, it is required to immediately start fasting diet, take anti-infective, implement fluid infusion and other treatment methods.

There is one hemorrhage case. As shown in related data^[10], the proportion of hemorrhage complication incurred usually ranges from 2% to 5%, mainly due to large incision, out-of-control incision rate, multiple crushing or calculus removed. The light sufferer behaves as bloody bile, the heavy sufferer behaves as melena. In case of hemorrhage, it needs to establish the vein passage to supplement blood volume, concurrently take anastaltic drug.

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