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Causes of Chest Complications and Prevention for

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Abstract

Objective : To evaluate the cases of percutaneous nephrolithotomy lithotripsy combined with chest complications and the way to prevent it ; Methods: A retrospective analysis of patients in our hospital form 2003.1 to 2010.4 because of upper urinary tract calculi lithotripsy for percutaneous nephrolithotomy combined with chest complications; Results: In 1400 patients, there are 7 cases with chest complications, 2 cases with complications of serious, need to be dealt positively, the other five cases are recovered after conservative treatment; Conclusion : Percutaneous nephrolithotomy lithotripsy is a safe, minimally invasive tools have been recognized by all, but we need to be carefully about reading preoperative image data, selecting the appropriate operation and puncture puncture point approach. Postoperative patients should be carefully observed with the situation in a timely manner and actively dealt with chest examination is the key to prevent serious complications chest.

Index terms— Percutaneous nephrolithotomy, lithotripsy, complications, prevention.

1 INTRODUCTION

II.

2 MATERIALS AND METHODS

needle insertion will be suffering from kidney calyx, exit needle heart to be inserted after a urine outflow special guide wire exit needle sheath, a knife cut the III. The preoperative preparation:

3 RESULTS

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of patients preoperative chest radiograph, urinary plain film, B ultrasound, electrocardiogram, blood, urine examination, intravenous pyelography and retrograde urography, kidney ureter imaging, parathyroid hormone and other tests such as urine infection use of antibiotics before surgery to control infection, chest radiograph abnormalities in 2 cases (including chronic bronchitis, emphysema, interstitial lung disease) to give antibiotics, expectorants, bronchodilators and other treatment to improve lung function.

5 c)

Surgical lithotomy: position in patients taking conventional disinfection, shop towels, connecting light source, transurethral ureteroscope, the ureteral catheter into ipsilateral ureter, ureteroscopy out, indwelling balloon catheter, the ureteral catheter and connect fixed pressure flushing system, change the prone position, padded waist, connecting ultrasound equipment, first suffering from renal ultrasound scan, regular disinfection, shop towels, select the appropriate puncture point, B ultrasound guided needle insertion will be suffering from kidney calyx, exit needle heart to be inserted after a urine outflow special guide wire exit needle sheath, a knife cut the skin, along with the fascial dilator guide wire followed by expansion of needle tract, extended F16 fascia expansion,

while thin sheath placed in Peel-away , pull out the F16 fascia expansion, placement of metal expander, expanded the original stoma to F24, F24 No. sheath and into the corresponding stone equipment, stone, For equipment with 2 or holmium laser lithotripsy on behalf of gravel equipment, expansion to the F16 can, of surgery, placed nephrostomy tube and the double "J" tube.

1400 cases of chest complications in patients with presence in 7 cases, 7 patients in the establishment of two-channel or multi-channel gravel in 4 cases. Chest complications: intraoperative chest pain, 1 case of termination of surgery, the patients through the oxygen, application of sedative analgesics, antibiotics, bed rest after the symptoms disappear, chest radiographs and chest were normal B-; 1 case 2 days after breathing difficulties, blood oxygen saturation decreased after the diagnosis of pleural effusion in chest radiographs, transthoracic surgical consultation, to pleural puncture fluids, antibiotics recovery; one case of postoperative day 5 pull nephrostomy fistula after the fever, difficulty breathing, blood oxygen saturation decreased, after the a)

General information: on a total of 1400 cases of this group of patients, of which there were seven cases of chest complications. The 7 patients aged 45 -60 years, mean 52 years, five cases of abnormal body weight, less than the standard weight of 10%; thorax, spinal deformity 1 case; patients, 3 patients were males, 4 females; smokers, 3 (male); kidney stones in 4 cases, including 3 cases of left kidney, right kidney 1 case; stones in 3 cases of upper calyx, in 1 case in the light; ureteral stones in 3 cases, of which Right side in 2 cases, left in 1 case. Preoperative parathyroid hormone no exception.

diagnosis of hemothorax after thoracic surgery consultation, to pleural puncture and drainage, antibiotic recovery; three cases occurred after the first 2-3 days of chest discomfort, manifested chest pain, rib expansion, no significant changes in blood oxygen saturation, chest examination by a small amount of pleural effusion confirmed by observation, antibiotics and other symptomatic treatment recovery, 1 patient on day 6, fever, cough and other symptoms , consider aspiration pneumonia chest radiographs, antibiotics, expectoration, and other treatment to restore inhalation. the renal pelvis and ureter point to make nephrolithotomy or ureteroscopy smoothly into the ureter, which is not on the renal parenchyma over more traction, the location of the puncture point is relatively high, because the distribution of renal vessels was fanshaped, vascular to avoid injury caused by bleeding, often walking along the road of vascular needle, the above cases, the puncture point position often reached 10 intercostal and increased opportunities for injury; (2) position: percutaneous renal surgery in patients more than when using the prone position, abdominal breathing is limited, resulting in thoracic activity than normal weight large range of diaphragm increases and then easily lead to pleural injury ; (3) body weight and abnormal: abnormal body weight chest prone to complications, the group of 7 patients, 5 patients presented with less than the standard weight (71%), those prone to weight loss, weight loss may be due to greater mobility were IV.

6 DISCUSS

breathing , a large range of diaphragm activity, thoracic or spinal deformities, particularly scoliosis patients puncture or expanding channel, could easily lead to pleural injury 1 ; (4) multi-channel gravel: multichannel gravel repeatedly increased pleural puncture injury opportunity, and another reported in the literature, puncture casing to crack, can cause a large number of intraoperative pleural lavage enter 2 , can cause breathing difficulties; (4) Hemothorax: Causes for the needle puncture site is inappropriate, puncture injury during intercostal artery.

7 b) Treatment of chest complications :

Percutaneous lithotripsy mirror chest complications tend to be mild and occur more than 2-3 days after surgery, so difficult to pay attention. Serious complications are rare. According to a summary of this set of data, we have the following experience: (1) pleural stimulation: pleural irritation than occurred during puncture, the patient sudden chest pain, the pain was persistent irritation, can be seen in the lower part of the chest or neck , ipsilateral shoulder, no significant changes in blood oxygen saturation may be the process of stimulation of phrenic pleural puncture caused by termination of operation time, immediate and lateral chest films and chest B-ultrasound, to other than pleural effusion, pneumothorax, such as the pleura, but pure excitement should not be moving immediately, should be given sedation pain medications, oxygen, bed rest until symptoms returned to the wards, to prevent the premature emergence of pleural shock moving 3 ;

(2) a small amount of pleural effusion , free air: more common, the group of 7 patients, 4 patients had a small amount of pleural effusion, mild, occurred after 2-3 days, the affected side showed mild chest pain, rib expansion, oxygen no significant change in saturation due to less damage to the pleura, causing a small amount of perfusion fluid into the chest, it may be perirenal extravasation of liquid through the diaphragm into the chest lymph node 4 , these patients had mild symptoms, to discover positive to bed, oxygen, antibiotics to control infection treatment, most patients can resume conservative treatment, no special treatment; (3) sketch maps pleural effusion, free air: This complication is more serious, occurred within 24 hours after surgery , hemothorax can be pulled out after postrenal fistula (after 3-4 days), probably due to vascular surgery have resulted in injury, but nephrostomy tube and the passage of oppression, no obvious symptoms, pull-made After the retraction of fistula caused by vascular access bleeding obvious symptoms. Such as difficulty breathing, chest pain, Xiongshihuxi weakening fast pulse, oxygen saturation and decreased performance. Therefore, the relative small amount of pleural effusion, free air was found earlier, such as pleural effusion and pneumothorax was found more vessels more required to actively

give anti-infective Percutaneous nephrolithotomy for upper urinary calculi with less trauma to the body function is small, the advantages of rapid recovery, but there are still some, such as bleeding, fluid absorption caused by hemodilution, chest injury was found. Relatively rare complication in which the chest, causing severe chest complications of early symptoms and positive treatment, complications of mild chest hidden by the onset, the lack of clinical features can not pay attention to.

a) The reason for chest complications :

Chest complications included: pleural injury caused by pleural stimulation chest pain, pleural effusion, inter costal vascular injury. May occur during operation, but most symptoms 2-3 days after surgery. We understand the reasons for chest complications may be: (1) the higher position of the puncture point: the group of 7 patients, the damage mostly occurred in the upper ureteral stones and renal gravel on the course of light (6 / 7), simple right kidney damage is relatively small (1 / 7). May be due to kidney stones puncture points on the calyx select a location higher ureteral stone surgery, in order to channel after completion of serious, related departments should be promptly requested the consultation, needle aspiration or gas, such as a hemothorax, bleeding from intercostal blood V.

8 IN SHORT REFERENCE Références Referencias

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Percutaneous nephrolithotomy lithotripsy is a safe, minimally invasive means of gravel have been recognized too, need to read the image preoperative, intraoperative, and select the appropriate needle puncture point approach, postoperative patients should be carefully observed the situation chest examination in a timely manner and actively deal with, is to prevent serious complications chest key. distance of about 10cm away from the calyx around, too fat or thin, the skin to the renal pelvis of the distance change difficult to grasp, therefore, should be based on individualized treatment in patients with body shape, if necessary, can be a ruler measuring the depth of puncture is not in place to prevent the effusion of renal weeks more, subdiaphragmatic lymphatic fluid absorption caused by pleural effusion; (5) before surgery The best location of access, placement of ureteral catheter and pressure flushing, application of diuretics and hormone 8 to facilitate artificial hydronephrosis, renal pelvis and expansion to increase the success rate, try to avoid multiple needle or multichannel pieces Stone, reducing opportunities for chest injury; (6) for the preoperative treatment in patients with lung disease should be actively given antibiotics, expectorant, such as bronchodilators and inhalation therapy to improve lung function in patients, for minor chest complications after more useful; (7) after early detection: I understand where the following cases: abnormal body weight, thoracic or spinal deformities, kidney and upper calyceal stones, ureteral stones lithotripsy for percutaneous nephrolithotomy and after surgery in patients with multi-channel gravel 2 days after starting or after removal of nephrostomy tube chest symptoms, required lateral chest films and chest ultrasound is necessary, chest CT examination should be to early detection and timely treatment, as reported in the literature, PCNL thoracic films can be found in the probability of pleural effusion of 8%, while CT can reach 38% 9 . drugs and bleeding, thoracic puncture and promote patient rehabilitation, to prevent chest infections, especially diabetes, should pay attention. Percutaneous renal surgery more common in the parietal pleura pleural injury, chest injury and break more, and pleural disease or pathology, the majority of non-light absorption ability, it just puncture out, without thoracic cavity closed drainage 5 ; (4), aspiration pneumonia after surgery, the complications of female patients seen in the lighter weight, due to poor tolerance, patients in the postoperative nausea and vomiting caused by aspiration, showing postoperative nausea , vomiting, postoperative fever, cough, chest radiograph showed pulmonary shadows, need antibiotics to control infection, inhalation, bronchodilators and other treatment. c) Measures to prevent chest complications: Percutaneous nephrolithotomy operation, chest complications were seen in the percutaneous and channel expansion process, after the analysis of the patients, to prevent chest complications following recommendations: (1) should improve the correlation of preoperative Check carefully read the chest, urinary tract plain film, intravenous urography made videos and other image data, according to the patient thorax, spine and other skeletal location of signs and choose the right stone puncture point, puncture site without affecting the gravel under the premise of not be too high, has resulted in pleural injury or stimulation, the intercostal puncture should first find out the location of the ribs, rib margin at the top of the needle as far as possible in order to prevent damage rib below the rib groove edge of the blood vessels, nerves, puncture should be in the axillary near the midline, 11 intercostal or rib, needle angle to the horizontal in the 30-35 ° angle between the opportunities for smaller damage; (2) the puncture site should be part of the nearest stone, should be carefully observed before the expansion channel expander with or without cracks, cracks need for the timely replacement is found, should be rotating device placed into the expanded skin, the event should not be used when resistance to violence, to prevent the expansion process deviated from the guide wire channel, resulting in channel bend, damage the pleura or adjacent organs;

(3) 12 ribs puncture less chance ofpleural injury, and other high intercostal puncture 10,11 the greater chance of injury pleural 6 , should be attentiongetting middle-breath after the breath of patients, rather than in end-

Figure 1:

158 expiratory conduct. At this point the location of the diaphragm and right kidney, and prevent pleural injury 7 ;
159 (4) Under normal circumstances, the skin [1]