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ON TREATMENT FOR ACUTE PANCREATITIS (PROPOSAL OF SIMPLE ASPIRATION METHOD)

by

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We reported 2 cases of acute pancreatitis in 18-and 32-year-old women, which we took for acute appendicitis. In these 2 cases, only appendectomy with simple aspiration of peritoneal exsudate was performed by routine ileocoecal incision for appendectomy. After that, the incision wounds were sutured immediately and completely without any drainage.

In these 2 cases, former severe pains soon subsided and postoperative cources were very smooth with only routine postoperative treatment for appendectomy, except relatively longer and stricter postoperative inhibition of diet. Similar good effects with this method were also experienced in several cases of acute pancreatitis in the surgical clinic of Kaibara Red Cross Hospital.

Unexpected excellent results winned by this simple aspiration method impressed us strikingly and compelled us to make some speculation on treatment for acute pancreatitis.

DISCUSSION

True etiology of acute pancreatitis is, yet, controversial, but the direct cause of violent distresses in acute pancreatitis, especially severe pains arise in the disease, seems, to us, to be "leakage of pancreatic juice into free abdominal cavity" through damaged tissue of pancreas.

In general, it is observed that onest of symptoms tends to postpone in acute pancreatitis due to accidental trauma.

We had also experienced 2 cases of acute pancreatitis due to trauma in a 13-year-old girl (case 1) and in a 10-year-old boy (case 2). In case 1, damage in pancreatic tissue had been slight and not covered with blood clot, and more peritoneal exsudate with more spots of fat necrosis had been found on lsparotomy. In case 2, pancreas had been ruptured longitudinally in its body, and the wound had been covered so fast with massive clot that it had appeared there have not occured any leakage of pancreatic juice. There had been only scanty spots of fat necrosis and peritoneal exsudate had been little in this case.

In these two cases due to trauma, pain provoked directly by the stroke (in case 1, the patient had been striked on her abdomen by the ball while she had been playing dodge ball, in case 2 the boy had fallen on his abdomen over a pile) had disappeared in

a little while, and there had been apparent lucid intervals of symptoms within about 36 to 48 hours. Then, abdominal pains had again occured gradually.

These patterns of onset of symptoms (pains) seem to indicate that the direct cause of symptoms (pains) in acute pancreatitis is "leakage of pancreatic juice into peritoneal cavity," because the damaged tissue of pancreas had really existed in the time of such lucid intervals.

An actuality might have been thus : secretion activity of pancreas cells had been repressed with reflex action, stimulated by th trauma on pancreas, and these repressions had continued during some considerable hours. When the secretion function of pancreas had returned to their former activities, damaged tissue of pancreas had been already covered fast with blood coagulation or had been rearranged in some degree with its regeneration processes, so as only little leakage of the juice had occured. Such processes of the disease may proportionate to vague, in some caces, hardly recognisable patterns of symptoms in acute pancreatitis due to trauma.

According to old but excellent experimental studies in Japan, leakage of pancreatic juice into peritoneal cavity, provoked by cuting out main pancratic duct, resulted in deaths of all experimental dogs within 30 hours.[2)]

If our hypothesis above mentioned is true on the genesis of symptoms in the disease and if pancreatic juice is so toxic also in human being as in dogs, then a question naturally arises "why most of this disease can be successfully treated only with conservative symptomatic therapy ?"

The possibility to anwer this question may lie in assuming next two conditions. One is to assume that amount of the juice leaked out is so small, and the other is to assume that the leakage occurs so temporarily only at initial stage of the disease, therefore the toxicity of the juice can be soon weakened to become clinical nontoxic by vigrous exsudation from peritoneum.

In rare cases of acute pancreatitis, the leakage of the juice may occur profuse or continuously and, of cource, all such patients may die before long (Group 1 after Paxton and Payne). In such foudroyant cases of the disease, nothing may be left except to make desperate efforts to isolate peritoneal cavity from contamination with pancreatic juice. One way to meet this purpose may be to conduct the juice out from peritoneal cavity, for example, by continuous drainage of peritoneal cavity with water-tight omental barricade. The other may be to derive the juice into alimentary canal, for instance, with pancreaticogastrostomy or pancreaticojejunostomy performed all over the damaged area of pancreatic tissue, if infection could be controlled successfully, which may be provoked in pancreas through such anastomosis. Our method of direct application of antibiotics to anastomosis by means of a fine tube inserted into alimenary canal may serve well to control even such infection.

From the view points hereto stated, the excellent effects obtained in our cases with simple aspiration method can be accepted as due to aspiration of pancreatic juice leaked out into peritoneal cavity.

However, continuous drainage of peritoneal cavity is not neceseary, unless there is an abscess, because the leakage of juice is only temporary. Moreover, it is some times

hazardous, inviting secondary infection to the pancreas. Generally speaking, acute pancreatitis is not primarily infectious in origin and so needs no continuous drainage at all. Furthermore, any manipulation on the damaged tissue of pancreas at laparotomy is also hazardous, giving arise to leakage of the juise once more.

Recent treatment in acute pancreatitis is divided into 2 ways. If infection or abscess or some conditions to claim immediate surgery, for example, co-existence of biliary caluculus is suspected or apparent, then immediate laparotomy must be done. In other most cases, nonoperative treatment is universally accepted as a method of choice.

But, we propose such simple aspiration of peritoneal exsudate by laparotomy at the initial stage of the disease with succeeding internal therapy as rational and still more "better" treatment in relatively severe caces of acute pancreatitis not accompanied with infection, though such procedures have been porformed here and there by chance, perhaps without any firm intention.

SUMMARY

1) It was assumed that :
   a) direct cause for symptoms (pains) in acute pancreatitis was the "leakge of pancreatic juice into peritoneal cavity" through damaged tissue of pancreas.
   b) Such leakage of the juice was in most cases only little and temporary.
   c) but, in foudroyant group of the disease this leakage was profuse or continuous.
   d) The keypoint in treatment of acute pancreatitis lay in controlling such leakage of pancreatic juice into peritoneal cavity.
2) Under such hypothesis, several cases of acute pancreatitis, experienced in the clinic of both National Sasayama and Kaibara Red Cross Hospitals were inspected throughly, especially 2 cases due to traume : and it was found that, with such hypothesis, various clinical patterns of the disease could be clearly and monisticaly understood.
3) Under such a view point and with our own experiences, we proposed to perform simple aspiration of peritoneal exsudate by laparotomy at the initial stage of the disease without any succeding drainage of peritoneal cavity. We belive this method may be rational and still more "better" treatment than pure nonoperative therapy, for severe cases of acute pancreatitis with no infection.
4) Under same point of view, it was emphasized that continuous drainage of peritoneal cavity was unnecessary and moreover hazardous, because it might invite secondary infection to pancreas. Besides, it was also emphasized that any manipulation on damaged tissue of pancreas at laparotomy was hazardous, giving arise to new leakage of the juice once again.
5) It was suggested that in foudroyant cases of the disease, the only way to do might be to guard periteneal cavity from contamination with pancreatic juice leaked out profusely, e. g. by means of continuous drainage of peritoneal cavity with omental barricade or with pancreatico-gastrostomy or -jejunostomy performed all over the demaged area of pancreas.

Literature

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和文抄録

急性膵炎の治療について
(単純吸引療法の提唱)

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(1) われわれは，急性膵炎の病態ならびに治療に関して次の諸点を仮定した．

a) 急性膵炎の症状，ことにその激痛の直接の原因は遊離腹腔への病巣部よりの膵液洩出である．

b) このような膵液洩出は，しかし大多数の急性膵炎の症例においては，少量かつ一過性である．

c) しかしながら，少数のいわゆる電撃型の症例では，この膵液洩出は，大量であるか乃至は持続性である．

d) 急性膵炎における治療の要点は，この膵液の腹腔への洩出を制禦することにある．

(2) 以上の仮定にもとづいて，われわれが国立篠山病院および柏原日赤病院で経験した急性膵炎の諸症例，殊に外傷による2例を詳細に検討した結果，上記の仮定によつて，これ等諸症例の病態が非常に明白かつ一元的に理解できることを発見した．

(3) 以上の検討と，われわれの自験例にもとづいて[1]，われわれは，感染を伴つていない急性膵炎のうちで，重症例に対しては，従来の非手術的療法よりも，病初開腹し，腹腔浸出液の単なる吸引を行つた後，術創は排膿管を挿入することなく，直ちに完全に閉鎖する方法を行うべきことを提唱し，このような単純吸引療法が合理的かつよりよき方法であると思考される理由について述べた．(従来も偶然の機会にこのような単純排液法が行われていたが，明白な根拠を欠いていたと考える)．

(4) また同様の観点から，感染を伴わぬ急性膵炎に対して，腹腔に持続排膿管を挿入することは，不必要なだけでなく，膵への2次感染を招来するので行うべきでないこと，および開腹時に膵病巣に，たとえば，掻把その他の一切の操作を加えることは，再び新たな膵液洩出を誘起するので，危険であることを強調した．

(5) いわゆる電撃型急性膵炎に対しては，当然この大量乃至は持続的な膵液遊出から，腹膜腔を遮断しなければならない．

この遮断の方法として，大網によるバリケードを作つた後，この中に排液管を入れて持続的に洩出膵液を腹腔外に排除する方法や，膵病巣部を広く覆う膵胃乃至膵空腸吻合を行つて洩出膵液を消化管腔へ誘導する方法を示唆した．またこの際，吻合を通じて起る膵病巣部の感染の予防に，われわれが提唱した細管を通じての吻合部への抗生剤直接注入法が有効と信じることを述べた[3]．