Clinical Observations

Analysis of Clinical Syndromes in 47 Patients with Pancreatic Cancer at Late Stage

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Objective: To analyze the law governing the distribution of traditional Chinese medicine (TCM) syndromes of pancreatic cancer.
Methods: The authors used retrospective study to statistically analyze TCM syndromes of patients, separated complex syndromes and calculated the frequency of appearance of single syndromes.
Results: The patients mainly suffered from 4 syndromes: blood stasis syndrome, *qi* stagnation syndrome, *qi* (yang) deficiency syndrome, and phlegm dampness syndrome. The distribution of syndromes is rarely related to sex, age and morbid site of patients.
Conclusion: Owing to complicated distribution of its syndromes, pancreatic cancer should be diagnosed and treated according to its characteristics of deficiency in origin and excess in superficiality.

Keywords: *pancreatic cancer; distribution of its syndromes*

Pancreatic cancer is a malignant tumor with the poorest prognosis and its incidence rising year by year.[1] Because it is very difficult to discover pancreatic cancer and there is no simple and specific diagnostic method, most patients are diagnosed as suffering from late pancreatic cancer with low excision rate and insensitivity to chemotherapy. Although traditional Chinese medicine (TCM) therapy is widely used to treat late pancreatic cancer, there is no unified standard for differentiating its syndromes at present. Therefore, it is necessary to analyze and sum up the characteristics of its TCM syndromes in order to direct their clinical use.

METHODS

Among the inpatients with late pancreatic cancer in the TCM Tumor Department of Putuo Hospital Affiliated to Shanghai TCM University from 1996 to 2006 were 21 males and 26 females (0.8:1) aged 41–94, 71 on average, 28 cases of tumor at the head of pancreas, 10 cases of tumor at the tail of pancreas, and 9 cases of tumor at the body of pancreas. All the patients were treated with Chinese herbal drugs or Chinese patent drugs. Among them were 12 cases simultaneously treated with chemotherapy and 15 cases simultaneously treated with intervention therapy. 25 cases were treated with Chinese herbal drug alone while the other 22 cases were treated with more than one therapy. Their average survival period was 8.5 months.

Retrospective study was used to summarize the clinical symptoms of the 47 pancreatic cancer patients, analyze TCM syndrome types, separate complex syndromes into single ones (For example, the syndrome of *qi* stagnation and blood stasis is separated into *qi* stagnation syndrome and blood stasis syndrome), and analyze the frequency of appearance of single syndromes with χ^2 test as statistical method.

RESULTS

Distribution of Common Symptoms
Symptoms from first onset were in the following order: abdominal pain in 42 cases, emaciation in 13 cases, jaundice in 6 cases and vomiting in 6 cases. The frequencies of appearance of symptoms were in the following order: abdominal pain in 42 cases, poor appetite in 25 cases, lassitude in 19 cases, abdominal distension in 17 cases, jaundice in 11 cases, vomiting in 9 cases, constipation in 4 cases, diarrhea in 3 cases, fever in 2 cases, black stool in 1 case, and aversion to cold and cold limbs in 1 case. Analysis of fur and pulse showed red tongue in 21 cases, reddish or purplish tongue in 15 cases, thready uneven or taut thready pulse in 40 cases and taut slippery pulse in 7 cases, as shown in Table 1.

Distribution of TCM Syndromes
TCM syndromes, mainly complex syndromes, were in the order of their frequencies of appearance: syndrome of *qi* stagnation and blood stasis (23), syndrome of spleen deficiency and *qi* stagnation (6), syndrome of deficiency of both *qi* and yin (4), syndrome of vital *qi* deficiency and blood stasis (4), syndrome of damp-heat retention (3), syndrome of *qi* stagnation and dampness obstruction (2), syndrome of spleen deficiency and dampness obstruction (2), syndrome of yin deficiency (2), and syndrome of obstruction of both phlegm and blood stasis (1), as shown in Table 2.

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Table 1. Distribution and frequency of clinical symptoms

Clinical symptoms	Frequency
Abdominal pain	42
Poor appetite	25
Lassitude	19
Abdominal distension	17
Jaundice	11
Vomiting	6
Diarrhea, fever, black stool, vexation, insomnia, aversion to cold, cold limbs	12
Red tongue	21
Reddish or purplish tongue	15
Thready uneven or taut thready pulse	40
Taut slippery pulse	7

Table 2. Distribution and frequency of TCM syndromes

TCM syndromes	Frequency	Proportion (%)
Syndrome of *qi* stagnation and blood stasis	23	48.94*
Syndrome of spleen deficiency and *qi* stagnation	6	12.77*
Syndrome of deficiency of both *qi* and yin	4	8.51
Syndrome of vital *qi* deficiency and blood stasis	4	8.51
Syndrome of retention of damp-heat	3	6.38
Syndrome of *qi* stagnation and dampness obstruction	2	4.26
Syndrome of spleen deficiency and dampness obstruction	2	4.26
Syndrome of yin deficiency	2	4.26
Syndrome of obstruction of both phlegm and blood stasis	1	2.11

Note: *$P<0.05$ as compared with the lowest frequency in χ^2 test.

Distribution of TCM Single Syndromes

TCM complex syndromes of the 47 patients with pancreatic cancer were separated into single ones and frequencies of their appearance were calculated as follows: blood stasis syndrome (24.76%), *qi* stagnation syndrome (23.81%), *qi* (yang) deficiency syndrome (20.00%), phlegm dampness syndrome (15.24%), yin (blood) deficiency syndrome (9.52%) and noxious heat syndrome (6.67%) with the first 4 syndromes mostly seen. Deficiency syndromes were mainly manifested in *qi* (yang) deficiency, but yin (blood) deficiency syndrome was not so common. Excess syndromes mainly focused on blood stasis syndrome, *qi* stagnation syndrome and dampness obstruction syndrome, while noxious heat syndrome was less seen. Excess syndromes accounted for about 70.48% of all the syndrome types and deficiency syndromes for about 29.52%, as shown in Table 3.

Analysis the Distribution of TCM Syndromes in Relation to Sex, Age and Morbid Site of Patients

The authors selected 4 syndromes with higher frequencies of their appearance and observed their distribution in relation to sex, age and morbid site. The result showed that sex, age and morbid site had no influence on the distribution of syndromes of pancreatic cancer, as shown in Table 4.

Table 3. Distribution and frequency of TCM single syndromes

TCM syndromes	Frequency	Proportion (%)
Blood stasis syndrome	26	24.76*
Qi stagnation syndrome	25	23.81*
Qi (yang) deficiency syndrome	21	20.00*
Dampness obstruction syndrome	16	15.24*
Yin (blood) deficiency syndrome	10	9.52
Noxious heat syndrome	7	6.67

Note: *P<0.05 as compared with the lowest frequency in χ^2 test.

Table 4. Relations of syndrome distribution to sex, age and morbid site (Cases)

Syndrome	Cases	Sex		Age		Site	
		Male	Female	≤60 (11)	>60 (36)	Pancreatic head and body	Pancreatic tail and body
Blood stasis syndrome	26	14	12	7	19	16	10
Qi stagnation syndrome	25	10	15	5	20	11	14
Qi (yang) deficiency syndrome	21	11	10	7	14	11	10
Dampness obstruction syndrome	16	7	9	5	11	9	7

Note: P>0.05 in χ^2 test.

DISCUSSION

According to its syndrome manifestations, pancreatic cancer can be put in TCM category of "abdominal pain", "abdominal mass" and "jaundice". Vital *qi* deficiency as its basic pathogenesis in addition to irregular diet, invasion by six climatic factors and internal injury by seven emotional factors causes obstructed *qi* of the liver and gallbladder and dysfunction of the spleen and stomach. The combined effect of stagnation of liver *qi* unable to govern the normal flow of *qi* and deficiency of spleen *qi* unable to transport and transform nutrients causes *qi* stagnation, dampness obstruction, phlegm retention, blood stasis and other pathological changes.

There are diversified manifestations of clinical symptoms of pancreatic cancer and its complex syndrome characteristics. However, there has been no report on research into syndromes of pancreatic cancer so far. Physicians diagnose and treat the disease mainly according to their experiences. For example, syndromes of pancreatic cancer are divided into the type of exuberant noxious damp-heat and the type of spleen deficiency and blood stasis by Liu,[2] the type of exuberant noxious damp-heat and the type of *qi* stagnation and blood stasis by Xiao,[3] the type of *qi* stagnation and blood stasis, the type of damp-heat in the liver and spleen and the type of deficiency of both *qi* and blood by Wang,[4] and the type of attack by pathogenic toxin, the type of *qi* stagnation and blood stasis, the type of spleen deficiency and dampness obstruction and the type of yin deficiency and internal heat by Lu.[5] Our retrospective clinical data show that diversified names of pancreatic cancer syndromes and great disparity of its syndrome differentiation and its diagnosis and treatment can not reflect characteristics of its syndromes and main features of its pathogenesis. In order to highlight characteristics of its syndromes, we have separated complex syndromes and calculated the frequencies of appearance of single syndromes. The results show that blood stasis syndrome, *qi* stagnation syndrome, *qi* (yin) deficiency syndrome and dampness obstruction syndrome are the foremost syndromes of pancreatic cancer, that blood stasis and phlegm dampness are its main pathological products, and that pancreatic cancer is mainly manifested in excess syndrome but "deficiency in origin", mainly *qi* (yin) deficiency, can not be neglected. Analysis shows that the distribution of pancreatic cancer syndromes is rarely related to sex, age and morbid site of patients. This conclusion remains to be further confirmed with larger samples.

To sum up, pancreatic cancer is a syndrome of deficiency in origin and excess in superficiality. Its single syndromes rarely seen in clinical practice only appear at different stages of its development. Attention should be paid to whole concept in its treatment. Only by always protecting vital *qi* of patients and considering *qi* stagnation and blood stasis, can good curative effect be achieved.

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