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**THE PRACTICAL MANAGEMENT OF CHRONIC PANCREATITIS: A MULTIDISCIPLINARY  
SYMPOSIUM HELD AT THE ANNUAL MEETING OF THE PANCREATIC SOCIETY OF GT.BRITAIN  
AND IRELAND, MANCHESTER 2016.**

***Running head: Chronic pancreatitis survey at PSGBI 2016.***

<sup>1</sup>Santhalingam Jegatheeswaran, <sup>2</sup>Joanne M Puleston, <sup>3</sup>Sinead Duggan, <sup>4</sup>Andrew Hart, <sup>3</sup>Kevin C Conlon  
and <sup>1</sup>Ajith K Siriwardena.

<sup>1</sup>Hepato-Pancreato-Biliary Unit and <sup>2</sup>Dept of Gastroenterology Manchester Royal Infirmary, Manchester  
UK, <sup>3</sup>Dept of Surgery, Trinity College, Dublin and <sup>4</sup>Dept of Gastroenterology, Norfolk and Norwich  
University Hospital & University of East Anglia.

**Correspondence:**

Professor Ajith Siriwardena MD FRCS

Regional Hepato-Pancreato-Biliary Unit,

Manchester Royal Infirmary, Manchester M13 9WL, UK

Email: [a.siriwardena@btinternet.com](mailto:a.siriwardena@btinternet.com)

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## **Abstract**

### **Aim**

This study is a questionnaire survey of delegates attending the chronic pancreatitis symposium at the 2016 meeting of the Pancreatic Society of Gt.Britain and Ireland and seeks a multidisciplinary “snapshot” overview of practice.

### **Methods**

A questionnaire was developed with multidisciplinary input. Questions on access to specialist care, methods of diagnosis and treatment including specific scenarios were incorporated. Eighty three (66%) of 125 delegates replied.

### **Results**

Twenty-four (29%) had neither a chronic pancreatitis MDT in their hospital nor a chronic pancreatitis referral MDT. Most frequently utilised diagnostic modalities were CT, MR and EUS with no respondents utilising duodenal intubation tests. Initial treatment was non-opiate analgesia by 69 (93%), opiates 56 (76%) and co-analgesics 49 (66%). Fifty two (68%) routinely referred patients with alcohol-related disease for counselling. Preferred treatment for large duct disease without mass was endoscopic therapy. In older patients with a mass pancreaticoduodenectomy was preferred.

### **Conclusion**

This is a small study likely to be skewed by sampling bias but is thought to be the first multidisciplinary survey of the management of chronic pancreatitis in the UK and Ireland. The results show a need for comprehensive access to specialist pancreatitis MDT care and that there remains substantial variation in management.

[200 words].

## **Introduction**

The practical management of chronic pancreatitis can be complex [1]. Modern clinical management favours a multidisciplinary approach to treatment. Part of the difficulty in managing chronic pancreatitis arises from the relatively limited evidence base for selection of treatment options. Although there are international and national guidelines for the management of chronic pancreatitis, the evidence for selection of treatment is less clear [1]. In terms of baseline treatments there are a series of relatively small randomised trials evaluating treatments such as the role of alcohol avoidance counselling in preventing re-admission in the early stages of the disease, gabapentin for symptom control, and micronutrient antioxidant therapy [2-4]. In terms of further treatment there are small randomised trials comparing endoscopic to surgical intervention but a large part of the body of evidence on either endoscopic or surgical treatment derives from case series reporting outcome [5-6]. Given the often conflicting outcomes of these reports, the literature does not support a 'best-practice' option in many settings.

This report arises from a conference questionnaire delivered to participants in the annual meeting of the Pancreatic Society of Great Britain and Ireland, held in Manchester in 2016. The meeting incorporated a symposium entitled "The practical management of chronic pancreatitis" featuring lectures on the diagnosis and treatment of this disease. Audience viewpoints were sought on answers to key questions around diagnostic standards, baseline treatment and selection for endoscopic or surgical intervention. Participants were provided with a questionnaire and this report is a detailed description of the responses to these questions. It should be noted that these responses constitute neither a consensus conference nor an official position statement of the Pancreatic Society of Great Britain and Ireland. Rather, these replies represent the responses of a multidisciplinary group of congress participants at this specialist society meeting.

## **Methods**

### *Setting*

This study took place during the chronic pancreatitis symposium at the 2016 annual meeting of the Pancreatic Society of Great Britain and Ireland in Manchester.

### *Design of questionnaire*

The questionnaire was designed to include a maximum of 10 key questions. The questionnaire can be seen in the appendix. The questionnaire was produced with input from a multidisciplinary panel comprising dietitians, physicians with an interest in pancreatology and pancreatic surgeons. The structure of the questionnaire followed a format of establishing the speciality of the respondent and then addressing the diagnosis and baseline treatment of chronic pancreatitis. In order to further explore specific aspects of management (for example the management of a patient with a pancreatic head mass) a series of scenario-based questions examining respondents views were incorporated into the questionnaire. These scenarios included large duct chronic pancreatitis, small duct chronic disease and the patient with a pancreatic head mass.

### *Implementation of questionnaire*

Paper copies were provided to all symposium participants. The session chairmen (KC and AKS) explained both at the start of the session and at the end that participation was strictly on a voluntary basis. In addition, the front page of the questionnaire included a question asking whether attendees wished to participate. Respondents had the option to remain anonymous; those who indicated that they wished to be named are acknowledged at the end of this manuscript. Questionnaires could be completed during the symposium and all response sheets were collected at the end of the session. A total of 125 questionnaires were handed out to delegates entering the symposium.

### *Collation of results of questionnaire*

The questionnaire allowed multiple responses to a single question. Therefore, if there was at least one ticked box in reply to a question, this question was regarded as answered. If there was no reply to any option, the question was regarded as unanswered. Results were collated onto an electronic database. Not all respondents answered all questions and thus the denominator for individual questions could differ. The specific denominator for each question is provided individually.

### *Analysis*

The Stats direct software (Altrincham, UK) was used for analyses. Categorical data were analysed by contingency tables using Fisher's exact test to assess for differences between professional groups accepting significance at the  $P < 0.05$  level.

### *Ethics*

Investigators were advised by the Research and Development department of Central Manchester University Hospitals NHS Foundation Trust that no formal ethics committee approval was required as the study has no clinical contact.

## Results

### *Study population*

A total of 83 (66%) delegates completed the questionnaires. These were collected at the end of the session and constitute the study population. By category of respondent there were 32 (39% of study population) consultant pancreatic surgeons, 20 (24%) Consultant Gastroenterologist/Pancreatologists, 18 (22%) dietitians, 12 (14%) trainees (not further categorised) and 1 (1%) specialist nurse.

### *Access to specialist chronic pancreatitis care*

There were 82 respondents to this question. Forty four (54%) worked in hospitals which had a specialist chronic pancreatitis MDT. A further 14 (17%) had access to a pancreatitis MDT to which they could refer patients. Twenty-four (29%) of respondents had neither a chronic pancreatitis MDT in their hospital nor an external chronic pancreatitis MDT to which they could refer patients. Fifty eight (71%) of respondents had access to a dietitian specialising in pancreatic disease.

### *Diagnosis of chronic pancreatitis.*

There were 78 respondents to this question. Replies are seen in Table 1. The most frequently used modalities were CT, MR and endoscopic ultrasound.

### *Monitoring of patients with chronic pancreatitis.*

There were 81 respondents to this question. Fifty six (69%) had a Pancreatic Enzyme Replacement Therapy (PERT) protocol in their unit. Fifty seven (70%) routinely monitored patients for development

of diabetes mellitus. Fifty five (68%) undertook bone density monitoring, and 20 (25%) undertook surveillance for pancreatic cancer (details unspecified).

#### *Initial treatment of chronic pancreatitis.*

There were 74 respondents to this question. The replies are seen in Table 2. By specialty, 12 of 31 (39%) surgeon respondents to this question used celiac plexus block compared to 5 of 17 (29%) physician respondents ( $P=0.75$ ; Fisher's exact test). No physicians used thoracoscopic splanchnotomy whereas two surgeons used this. Ten of 31 (32%) surgeons referred patients for specialist endoscopic intervention compared to 6 of 17 (35%) of physicians ( $P=0.78$ ). Eleven (35%) surgeons referred patients for specialist surgical intervention compared to 7 (41%) of physicians ( $P=0.76$ ; Fisher's exact test).

#### *Counselling on alcohol and tobacco avoidance*

There were 76 respondents to this question. Fifty two (68%) routinely referred patients with alcohol-related chronic pancreatitis for alcohol counselling. Thirty six (47%) referred patients for counselling to stop cigarette smoking. Forty five (59%) insisted on alcohol abstinence before surgery with a median (range) duration of 6 (0 – 12) months.

#### *Scenario 1: What is the preferred initial intervention in a young patient (<40 years of age) with painful large duct chronic pancreatitis, parenchymal calcification and no mass?*

There were 67 responses to this question and more than one response was permitted. Thirty seven (55%) respondents chose endoscopic therapy. Twenty-one (31%) chose lateral

pancreaticojejunostomy, 21 (31%) chose the Frey procedure and 7 (10%) chose the Beger procedure. Two respondents selected total pancreatectomy with islet auto-transplantation.

By specialty 14/31 (45%) surgeons selected endoscopic intervention as their initial preferred choice compared to 11/17 (65%) physicians (P=0.24; Fisher's exact test). Lateral pancreaticojejunostomy was selected by 12 (39%) surgeons compared to 3 (18%) physicians (P=0.19; Fisher's exact test).

*Scenario 2: What is the preferred intervention in an older patient (>50 years of age) with painful large duct chronic pancreatitis, parenchymal calcification and a pancreatic head mass and negative cytology from EUS-FNA.*

There were 67 respondents to this question and more than one response was permitted.

Pancreaticoduodenectomy was selected by 34 (51%) and the Frey procedure by 26 (39%).

Endoscopic therapy was selected by 21 (31%) and the Beger procedure was selected by 15 (22%). By specialty 8 (26%) of surgeons chose endoscopic intervention compared to 7 (41%) physicians (P=0.33; Fisher's exact). Eight (26%) surgeons chose the Beger procedure compared to 2 (12%) physicians (P=0.45; Fisher's exact). Pancreaticoduodenectomy was selected by 8 (26%) surgeons and 10 (59%) physicians (P=0.03; Fisher's exact). Eight surgeons (26%) selected total pancreatectomy with islet auto transplantation compared to 0 physicians (P=0.03, Fisher's exact).

*Scenario 3: What is the preferred intervention in a younger patient (<40 years of age) with painful small duct chronic pancreatitis, minimal parenchymal calcification and no pancreatic head mass*

There were 67 respondents to this question and more than one response was permitted. Forty nine (73%) respondents stated that they would undertake no intervention. Endoscopic therapy was selected

by 13 (19%). The Izbicki procedure was selected by 13 (19%) and total pancreatectomy with islet auto transplantation by 5 (7%).

## Discussion

This paper is a report based on a questionnaire administered during the chronic pancreatitis symposium at the 2016 annual meeting of the Pancreatic Society of Great Britain and Ireland. The questionnaire explores respondents' views on the diagnosis and treatment of chronic pancreatitis and also uses specific scenarios to assess treatment. It is important to appreciate the limitations of this study. First, this is a small sample. Second, it is likely to be skewed by sampling bias as respondents are likely to have an interest in the management of chronic pancreatitis. In this regard as there could have been more than one respondent from any particular institution there could have been over-representation of some units compared to others). Third, answers to questionnaire surveys indicate hypothetical responses which may not translate into practice. Hence over-interpretation of the findings should be avoided.

If the results of this survey are viewed in the light of these limitations, there are some interesting and potentially important findings. This is likely the first multidisciplinary survey of the management of patients with chronic pancreatitis in the United Kingdom and Ireland. In this context, the population of 83 respondents could be argued to be a representative cross-section of the community treating these patients with the exception of radiologists and specialist nurses.

The first interesting finding is that 24 (29%) of respondents had neither a chronic pancreatitis MDT in their hospital nor an external MDT to which they could refer patients. This finding is of concern and the findings require more systematic verification. Mainstays for the diagnosis of chronic pancreatitis include CT and endoscopic ultrasound. It is noteworthy that 16 (21%) of respondents stated that they used ERCP in diagnosis of chronic pancreatitis. This is a surprising finding given that diagnostic ERCP is no longer a part of the routine diagnostic work-up in chronic pancreatitis. Although the question on diagnosis clearly specified whether ERCP was used for diagnosis (see appendix) it is possible that respondents regarded diagnosis and therapy as a combined procedure.

It is noteworthy that no respondents utilise duodenal intubation tests. Given the relative paucity of evidence for the early treatment of chronic pancreatitis, the range of treatments is broad. Treatments such as thoracoscopic splanchnotomy are rarely used. Referral of patients for counselling on alcohol or tobacco avoidance is not universal. Recent evidence on tobacco smoking as a potentially modifiable risk factor and hence the value of counselling to stop smoking should be more broadly incorporated into care pathways [7]. There are no United Kingdom guidelines on issues such as alcohol avoidance before surgery and there was a range of responses in relation to the question on duration of time for abstinence prior to surgery.

In terms of the clinical scenarios, the first setting of the young patient with large duct disease, 55% of respondents chose endoscopic therapy and 31% selected lateral pancreaticojejunostomy. This is interesting in light of the randomised trial evidence favouring surgery [8]. There was no difference between surgeons and physicians in the choice of procedure. In the second scenario of the older patient with large duct disease but with a pancreatic head mass, pancreaticoduodenectomy was the favoured option, being selected by 51%. This response is broadly in keeping with the evidence from the ChroPac trial which did not show superiority of duodenum-preserving pancreatic head resection compared to pancreaticoduodenectomy [9]

This option was selected by significantly more physicians than surgeons (26% vs 59%;  $P = 0.03$ ). This difference is likely accounted for by surgeons selecting a range of surgical procedures. In the final scenario of the young patient with small duct disease, 73% of respondents stated that they would undertake no intervention.

To set these findings in context, the results can be compared to the findings of two important similar studies. The first was a questionnaire survey of the management of chronic pancreatitis in Ireland [10]. Chonchubhair's study surveyed both primary care practitioners and hospital specialists and revealed

that in addition to deficits in care there was a lack of familiarity with guidelines. The second was a Dutch national survey of the management of chronic pancreatitis [11]. This showed similar patterns of diagnostic strategy to the present study.

In summary this study reports a questionnaire survey undertaken at the 2016 annual meeting of the Pancreatic Society of Gt.Britain and Ireland. The results indicate that not all respondents have access to a specialist pancreatitis MDT at which the care of their patients can be discussed. Tests used for diagnosis of chronic pancreatitis would be in compliance with international diagnostic criteria. There is no clear-cut consensus on initial treatment of chronic pancreatitis. It would potentially be of interest to explore the findings of this study in a national survey of clinicians involved in the care of patients with chronic pancreatitis.

**Table 1: Tests used for the diagnosis of chronic pancreatitis.**

<b>Tests utilised for the diagnosis of chronic pancreatitis</b>	<b>Number of respondents (n = 78)</b>
<b>Computed tomography</b>	<b>77 (99%)</b>
<b>Magnetic resonance scan</b>	<b>44 (56%)</b>
<b>Secretin-stimulated MR</b>	<b>26 (33%)</b>
<b>ERCP</b>	<b>16 (21%)</b>
<b>Endoscopic ultrasound</b>	<b>60 (77%)</b>
<b>Faecal elastase</b>	<b>46 (59%)</b>
<b>Duodenal intubation test</b>	<b>0</b>

**Table 2: The initial treatment of chronic pancreatitis.**

<b>The initial treatment of chronic pancreatitis</b>	<b>Number of respondents (n = 74)</b>
<b>Non-opiate analgesia</b>	<b>69 (93%)</b>
<b>Opiate analgesia</b>	<b>56 (76%)</b>
<b>Co-analgesics</b>	<b>49 (66%)</b>
<b>Micronutrient anti-oxidant therapy</b>	<b>9 (12%)</b>
<b>Celiac plexus block</b>	<b>22 (30%)</b>
<b>Thoracoscopic splanchnotomy</b>	<b>2 (3%)</b>

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**Table legends:**

**Legend Table 1: Tests used for the diagnosis of chronic pancreatitis.**

MR = magnetic resonance scan. ERCP = endoscopic retrograde cholangiopancreatography.

**Legend Table 2: The initial treatment of chronic pancreatitis.**

Appendix

PRACTICAL MANAGEMENT OF CHRONIC PANCREATITIS:

SYMPOSIUM AT PANCREATIC SOCIETY MEETING, MANCHESTER 2016.

Thank you for attending this symposium. To enhance the educational experience, we have put together a short questionnaire. Please note that this questionnaire does not represent an official document of the Pancreatic Society of Gt.Britain and Ireland. However, if the findings are of sufficient interest, we may seek to report the outcomes.

Therefore we ask whether you would consent for your anonymised replies to be included in the response document. Place a tick in the box if you agree

Further, if you would wish to be listed as a symposium participant and collaborating author in any subsequent publication place a tick in the box and provide contact details at the end of the questionnaire.

Please now address the following 10 questions:

1. Participant's specialty:

Would you indicate your main specialty please?

<b>A</b>	<b>Dietician</b>
<b>B</b>	<b>Nurse specialist</b>
<b>C</b>	<b>Basic Scientist</b>
<b>D</b>	<b>Physician/Pancreatologist</b>
<b>E</b>	<b>Surgeon/Pancreatic Surgeon</b>
<b>F</b>	<b>Trainee</b>

## 2. Access to specialist care:

<b>Does your hospital have a specialist chronic pancreatitis or pancreatitis MDT?</b>	<b>YES/NO</b>
<b>If you answered NO above, do you have access to a specialist pancreatitis MDT to which you can refer patients?</b>	<b>YES/NO</b>
<b>Do all your patients with chronic pancreatitis have access to a dietician specialising in pancreatic disease?</b>	<b>YES/NO</b>

## 3. Diagnosis:

In addition to history, examination and routine blood tests which of the following tests would you use for diagnosis (tick as many as you wish):

<b>CT</b>	
<b>MR</b>	
<b>Secretin-stimulated MR/MRCP</b>	
<b>ERCP</b>	
<b>EUS (<math>\pm</math> FNA)</b>	
<b>Glucose tolerance test</b>	
<b>Glycosylated haemoglobin</b>	
<b>Faecal elastase</b>	
<b>Duodenal intubation for exocrine assessment</b>	

**4. Monitoring:**

<b>Does your unit have a Pancreatic Enzyme Replacement Therapy (PERT) protocol?</b>	<b>YES/NO</b>
<b>Do you routinely monitor ENDOCRINE function in patients with chronic pancreatitis?</b>	<b>YES/NO</b>
<b>Do you have access to bone density measurement in patients with CP?</b>	<b>YES/NO</b>
<b>Do you have a surveillance protocol to detect cancer in chronic pancreatitis?</b>	<b>YES/NO</b>

**5. Initial treatment of chronic pancreatitis:**

**What are your broad first treatment steps (select as many as are appropriate)**

<b>Non-opiate analgesia</b>	
<b>Opiate analgesia</b>	
<b>Co-analgesics (e.g. Gabapentin)</b>	
<b>Anti-oxidant therapy</b>	
<b>Endoscopic celiac plexus block</b>	
<b>Thoracoscopic splanchnic nerve division</b>	
<b>Referral for specialist endoscopic intervention</b>	
<b>Referral for specialist surgical intervention.</b>	

**6. Counselling on alcohol and tobacco mis-use:**

<b>Do you routinely refer for counselling for alcohol cessation?</b>	<b>YES/NO</b>
<b>Do you routinely refer for counselling to stop smoking?</b>	<b>YES/NO</b>
<b>Do you insist on a period of alcohol abstinence before surgery?</b>	<b>YES/NO</b>
<b>If so how long should this period be?</b>	

**7. Further interventional treatment of chronic pancreatitis:**

**In a young patient (<40 years of age) with painful large duct chronic pancreatitis, parenchymal calcification and no mass what is your PREFERRED intervention following on from initial treatment above (you can indicate more than one response)?**

<b>Endoscopic therapy (includes stents and dilatation)</b>	
<b>Endoscopic therapy with ESWL + stent(s)</b>	
<b>Surgical lateral pancreaticojejunostomy</b>	
<b>Beger operation (duodenum-preserving pancreatic head resection).</b>	
<b>Frey operation (LPJ + coring of pancreatic head).</b>	
<b>Total pancreatectomy with islet auto-transplantation</b>	
<b>None (watch and wait)</b>	

**8. Further interventional treatment of chronic pancreatitis:**

**In an older patient(>50 years of age) with painful large duct chronic pancreatitis, parenchymal calcification and a pancreatic head mass and negative cytology from EUS-FNA what is your PREFERRED intervention following on from initial treatment responses to question 5. (You can indicate more than one response)?**

<b>Endoscopic therapy (includes stents and dilatation)</b>	
<b>Endoscopic therapy with ESWL + stent(s)</b>	
<b>Surgical lateral pancreaticojejunostomy</b>	
<b>Beger operation (duodenum-preserving pancreatic head resection).</b>	
<b>Frey operation (LPJ + coring of pancreatic head).</b>	
<b>Pancreaticoduodenectomy (Whipple or PPPD)</b>	
<b>Total pancreatectomy with islet auto-transplantation</b>	
<b>No intervention (watch and wait)</b>	

**9. Further interventional treatment of chronic pancreatitis:**

**In a younger patient (<40 years of age) with painful small duct chronic pancreatitis, minimal parenchymal calcification and no pancreatic head mass what is your PREFERRED intervention following on from initial treatment above (you can indicate more than one response)?**

<b>Endoscopic therapy (includes stents and dilatation)</b>	
<b>Endoscopic therapy with ESWL + stent(s)</b>	
<b>Surgical lateral pancreaticojejunostomy</b>	
<b>Beger operation (duodenum-preserving pancreatic head resection).</b>	
<b>Frey operation (LPJ + coring of pancreatic head).</b>	
<b>Izbicki "V" shaped excision operation</b>	
<b>Total pancreatectomy with islet auto-transplantation</b>	
<b>None (watch and wait)</b>	

**10. Complications of chronic pancreatitis:**

**Management of benign biliary stricture (tick as appropriate)**

<b>Endoscopic biliary stent placement is the preferred first treatment.</b>	<b>YES/NO</b>
<b>Covered metallic stent is preferable to plastic stent.</b>	<b>YES/NO</b>
<b>In older patients, biliary stenting can be used as definitive treatment</b>	<b>YES/NO</b>
<b>In patients &lt; 50 years, a persistent biliary stricture may be regarded as an indication for surgery.</b>	<b>YES/NO</b>

**Thank you for your participation.**

**PARTICIPANT NAME:**

**PARTICIPANT'S INSTITUTION:**

**PARTICIPANT'S EMAIL ADDRESS:**