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The Adverse Effect of Analgesics and Coeliac Plexus Block for the Relief of Pain in Carcinoma of Pancreas – A Prospective Observational Study

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Abstract **Original Research Article**

Introduction: Pancreatic cancer is a formidable health problem with increasing incidence. Worldwide, over 200000 people die annually of pancreatic cancer Because of high fatality rates; pancreatic cancer incidence rates are almost equal to mortality rates. Pancreatic cancer is diagnosed late in the natural history of the disease, given the few early indicators of illness, and the lack of screening tests for this disease. Neurolytic celiac plexus block (NCPB) is commonly used to treat pain of upper abdominal cancer that fails to respond to narcotic analgesics. CPB refers to the temporary inhibition of the celiac plexus often achieved with a corticosteroid injection in patients with benign pancreatic diseases like chronic pancreatitis. ***Aim of the study:*** *The aim of this study was to determine and compare the adverse effect of analgesics and coeliac plexus block in relieving pain in carcinoma of pancreas.* ***Methods:*** This study was a randomized comparative study and was conducted in the Department of Anesthesia, Analgesia and Intensive Care Medicine of Bangabandhu Sheikh Mujib Medical University, Dhaka, Bangladesh during the period from July, 2008 to June, 2009. A total number of 60 patients were enrolled in this study. All patients were divided into two groups- Group A (treated with NCPB) & Group B (treated with conventional analgesic drugs). ***Result:*** In total 60 patients from both the groups completed the study. In our study we found the majority (58%) of our patients were aged between 41-60 years old followed by 30% were aged above 60 years old. The least prevalence 5% &7% was found among <= 20 and 21-40 years old respectively. In this study we found majority of our patients were male (63%) compared to female (37%).The mean age in the group A and group B patients were 48.73 ± 14.26 years and 51.47 ± 12.35 years respectively. In our study we found after 15th day of treatment severe vomiting was 13% in group B on the other hand vomiting was absent in. 13% in group A respectively. At 15th day of treatment vomiting was absent in 13% ; mild was seen in 60% in group A while in group B mild was 33% & severe was 13% respectively and we found severe sleep disturbance was 13% in group B on the other hand sleep disturbance was absent in 13% in group A respectively. ***Conclusion:*** In our study, we tried to find the adverse effect between analgesics and coeliac plexus block among patients with carcinoma of pancreas. Neurolytic celiac plexus block (NCPB) is commonly used to treat pain of upper abdominal cancer that fails to respond to narcotic analgesics. In patients with unresectable pancreatic cancer, neurolytic celiac plexus blockade (NCPB) is associated with improved pain control, and reduced narcotic usage and constipation compared with standard treatment with clinical significance.

Keywords: Pancreatic cancer, Neurolytic celiac plexus block, Analgesics.

INTRODUCTION

Pancreatic cancer is a formidable health problem with increasing incidence [1]. Worldwide, over 200000 people die annually of pancreatic cancer Because of high fatality rates, pancreatic cancer incidence rates are almost equal to mortality rates.

Pancreatic cancer is diagnosed late in the natural history of the disease, given the few early indicators of illness, and the lack of screening tests for this disease [2]. The highest incidence and mortality rates of pancreatic cancer are found in developed countries. In the United States, pancreatic cancer is the 4th leading cause of cancer death with more than 28,000 people deaths attributed to the disease each year and in Europe it is the 6th in position [3]. Advanced disease is associated with a dismal outcome, with a median survival of 3-6 months [4]. Debilitating pain is very common in patients with pancreatic cancer [5]. Up to 70%-80% of patients with pancreatic cancer have pain at the time of diagnosis which may increase to 90% as the disease advances [6]. Despite treatment options such as surgery, radiation and chemotherapy the prognosis remains poor [7]. Therefore, an important focus is improving the quality of life by optimal management of the symptoms [8]. However, despite adherence to the World Health Organization analgesic ladder consisting of medication titration which is progressing from nonsteroidal anti-inflammatory drugs to narcotics, pain remains difficult to treat and frequently requires the use of high-dose narcotics causing unwanted side effects [5]. The potential causes of pain in pancreatic cancer are poorly understood [9]. Overall, cancer-related pain is likely multidimensional [10]. The major goal in the management of patients with cancer of the pancreas is palliation. In a prospective study of 1,107 patients admitted to a palliative setting, approximately 44% of those with pancreatic cancer had severe pain [11]. Again, the prevalence of depressive disorders of all types were found to be higher in cancer patients with severe pain, raising an inference of causation. This link between pain and depression, along with anxiety, underscores the problem of under treatment for pain as the most common opioid abuse issue in the care of the dying [12]. Pain is the aspect of cancer that is most worrisome to both patients and their families. Half of respondents to public surveys about pain believed physicians cannot make a difference and this fear translated to 20% claiming they would avoid seeking cancer treatment [13]. The paradox of cancer pain is leading to the most feared symptom, the most connected and interwoven to other cancer symptoms like insomnia, fatigue, nausea, constipation and yet the most treatable of cancer complaints and the oral analgesics provide relief to 90% of patients with cancer [11]. Adenocarcinoma of the pancreas comprises 90% to 95% of all malignant tumors of the exocrine pancreas. Its geographic location within the body makes imaging studies and biopsy procedures more difficult compared with other tumors. Poor prognosis has been attributed to an inability to diagnose pancreatic cancer at an early stage. Pain syndromes with pancreatic cancer can occur due to the proximity of the organ to a number of other critical structures like the duodenum, liver, stomach, jejunum, and transverse colon. Discomfort arising from the body of the pancreas appears as mi epigastric discomfort, while pain coming from the tail is often localized in the left epigastrium and left intercostal space [11]. Obstructive symptoms are cramps, poorly localized with a crescendo-decrescendo quality, while destruction of pancreatic tissue itself causes further inflammation and discomfort. Pain can be referred to somatic structures without tumor infiltration of somatic nerves. The pain is progressive, and its character, quality, and temporal nature worsen as the illness progresses. The liver is a common site of metastasis, and pain can arise due to nociceptive sensitive areas located within the liver capsule and biliary tract and this pain can be referred to the right shoulder or neck [11]. Neurolytic celiac plexus block (NCPB) is an effective method in the management of pain in patients suffering from upper abdominal malignancies, such as pancreatic cancer, bile duct cancer and primary liver neoplasm [14]. It may be associated also, with prolonged survival [15]. Celiac plexus block (CPB) has been used in the management of pancreatic pain since it was first described by Kappis in 1914 [16]. Neurolytic celiac plexus block (NCPB) is commonly used to treat pain of upper abdominal cancer that fails to respond to narcotic analgesics. CPB refers to the temporary inhibition of the celiac plexus often achieved with a corticosteroid injection in patients with benign pancreatic diseases like chronic pancreatitis. A local anesthetic such as bupivacaine is often used in combination with the steroid injection to provide a more prolonged analgesic effect compared to the local anesthetic alone [17]. CPB is evaluated mostly by the procedure via a posterior approach, usually under fluoroscopic guidance [15]. However, conventional posterior approach for celiac plexus block sometimes cannot be used in patients, whose anatomical relationship of the retroperitoneal organs is distorted by cancer growth or by a previously performed operation and concern remains about occasional potentially serious complications in such cases like paraplegia, pneumothorax, and liver or kidney puncture [18]. Radiological guidance such as CT or ultrasound has been shown to be fundamental in improving the quality and reproducibility of the neurolytic procedure and in making it safer and more effective [19].

OBJECTIVES

The main objective of this study was to determine and compare the adverse effect of analgesics and coeliac plexus block in relieving pain in carcinoma of pancreas.

METHODOLOGY & MATERIALS

This study was a randomized comparative study and was conducted in the Department of Anesthesia, Analgesia and Intensive Care Medicine of Bangabandhu Sheikh Mujib Medical University, Dhaka, Bangladesh during the period from July, 2008 to June, 2009. A total number of 60 patients were enrolled in this study. All patients were divided into two groups- Group A & Group B. Among of all 30 patients were in

the group A and 30 patients were in the group B. Group A who were treated with the neurolytic celiac plexus block (NCPB) and group B who were treated with conventional analgesic drugs. These are the following criteria to be eligible for the enrollment as our study participants: a) Patients belonged to any age group; b)Patients with Pancreatic Carcinoma; c) Patients suffering from pain due to pancreatic carcinoma ; d) Patients who needed palliation for their end stage carcinoma; e) Patients who were willing to participate in the study And a) Patients with uncontrolled DM, b) Patients with Coagulopathy; c) Patients with previous surgical history; d) Patients with known allergy to study drugs; e) Patients with any history acute illness (e.g., renal or pancreatic diseases, ischemic heart disease etc.) were excluded from our study. Statistical Analysis All data were recorded systematically in preformed data collection form and quantitative data was expressed as mean and standard deviation and qualitative data was expressed as frequency distribution and percentage. Statistical analysis was performed by using SPSS (Statistical Package for So Sciences) for windows version 10. 95% confidence limit was taken. Probability value <0.05 was considered as level of significance.

RESULT

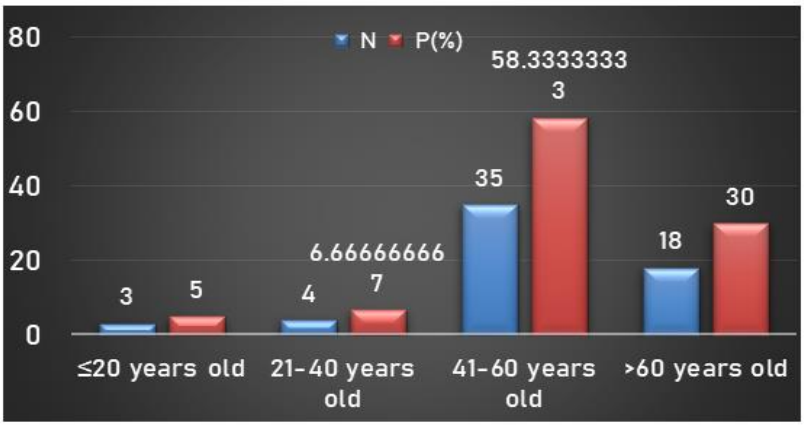

Figure 1: Age distribution among our study people

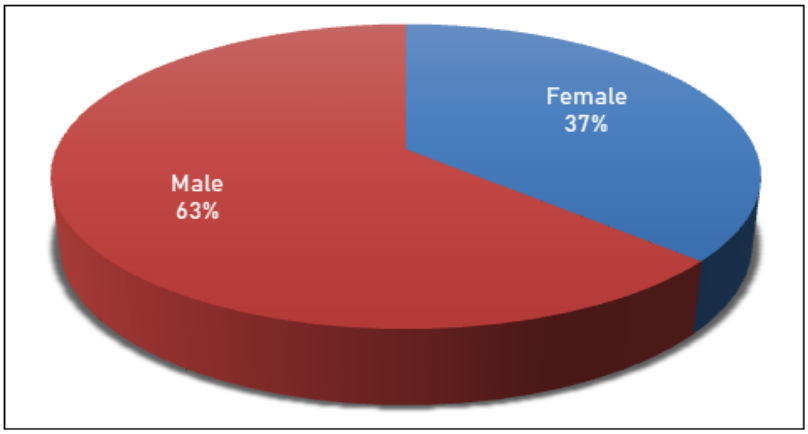

Figure 2: Gender distribution among our study participants

Table 1: Distribution of our study people based on demographics & baseline characteristics

Demographics & characteristics	Group A (NCB)		Group B (Conventional)		P-value
	N	P(%)	N	P(%)	
Age (in years)					
≤20 years old	2	6.7	1	3.3	
21-40 years old	3	10.0	1	3.3	
41-60 years old	16	53.3	19	63.3	
>60 years old	9	30.0	9	30.0	
Mean ± SD	48.73 ± 14.26		51.47 ± 12.35		0.579
Gender					
Male	19	63.3	19	63.3	0.999
Female	11	36.7	11	36.7	

Demographics & characteristics	Group A (NCB)		Group B (Conventional)		P-value
	N	P(%)	N	P(%)	
Occupation					
Housewife	6	20.0	6	20.0	0.449
Business	4	13.3	8	26.7	
Service	16	53.3	12	40.0	
Student	2	6.7	2	6.7	
Other	2	6.7	2	6.7	
Educational Qualification					
Primary	2	6.7	3	10.0	0.659
Secondary	3	10.0	4	13.3	
Higher secondary	6	20.0	7	23.3	
Graduate and above	19	63.3	16	53.3	

Table 2: Comparison of pain in VAS between Group A & Group B

Pain in VAS	Group A (NCB)	Group B (Conventional)	P-value
Before treatment	8.80±0.86	8.07±1.44	0.101
1st day	2.30±0.98	5.53±0.99	0.001
2nd day	2.27±0.70	5.60±1.24	0.001
7th day	2.13±1.13	6.07±1.16	0.001
15thday	2.27±1.39	6.40± 0.74	0.001

Table 3: Comparison of pulse, systolic BP & diastolic BP between Group A & B

Variables	*Group A (NCB)*					*Group B (Conventional)*					*P-value*
	Before treatment	**1st day**	**2nd day**	**7th day**	**15th day**	**Before treatment**	**1st day**	**2nd day**	**7th day**	**15th day**	
PULSE	87.87 ± 10.65	71.60 ±3.87	71.20 ±2.60	73.33 ± 3.60	73.60 ± 3.40	90.40 ± 8.55	78.80 ± 7.44	76.67 ± 7.24	78.27 ± 6.71	80.67 ± 7.70	0.001
Systolic BP	118.67 ± 12.46	96.33 ±6.67	98.67 ±9.16	106.67 ± 8.17	109.67 ± 8.96	109.33 ± 11.63	105.00 ± 9.06	102.00 ± 8.62	113.33 ± 4.88	115.33 ± 6.40	0.001
Diastolic BP	78.33 ± 13.05	60.67 ±7.04	65.33 ±6.40	68.67 ± 5.16	72.67 ±5.94	76.00 ± 9.86	71.33 ±7.43	68.67 ±7.43	75.33 ±5.16	74.67 ± 5.16	0.001

Table 4: Adverse effects of before & after treatment between Group A & B

Adverse effects	*Group A (NCB)*				*Group B (Conventional)*				*P-value*
	None	**Mild**	**Moderate**	**Severe**	**None**	**Mild**	**Moderate**	**Severe**	
Anorexia									
Before treatment	0	8(27%)	12(40%)	10(33%)	0	10(33%)	8(27%)	12(40%)	0.001
1st day	10(33%)	11(37%)	9(30%)	0	9(30%)	8(27%)	12(40%)	1(3%)	0.458
2nd day	8(27%)	6(20%)	12(40%)	4(13%)	11(37%)	1(3%)	10(33%)	8(27%)	0.128
7th day	6(20%)	7(23%)	14(47%)	3(10%)	3(10%)	8(27%)	12(40%)	7(23%)	0.027
15th day	4(13%)	16(53%)	10(33%)	0	0	2(7%)	16(53%)	12(40%)	0.014
Vomiting									
Before treatment	0	8(27%)	12(40%)	10(33%)	0	10(33%)	8(27%)	12(40%)	0.676
1st day	0	21(70%)	7(23%)	2(7%)	9(30%)	8(27%)	12(40%)	1(3%)	0.032
2nd day	30(100%)	0	0	0	11(37%)	1(3%)	10(33%)	8(27%)	0.004
7th day	30(100%)	0	0	0	3(10%)	8(27%)	12(40%)	7(23%)	0.008
15th day	4(13%)	18(60%)	8(27%)	0	0	10(33%)	16(53%)	4(13%)	0.004
Sleep disturbance									
Before treatment	0	8(27%)	12(40%)	10(33%)	0	10(33%)	8(27%)	12(40%)	0.865
1st day	30(100%)	0	0	0	9(30%)	8(27%)	12(40%)	1(3%)	0.126
2nd day	30(100%)	0	0	0	11(37%)	1(3%)	10(33%)	8(27%)	0.003
7th day	6(20%)	7(23%)	14(47%)	3(10%)	3(10%)	8(27%)	12(40%)	7(23%)	0.016
15th day	4(13%)	16(53%)	10(33%)	0	0	10(33%)	16(53%)	4(13%)	0.007

In our study Figure 1 shows the distribution of study population according to their age. We found the majority (58%) of our patients were aged between 41-60 years old followed by 30% were aged above 60 years old. The least prevalence 5% &7% was found among <= 20 and 21-40 years old respectively. Figure 2

shows the distribution of study population according to gender. Majority of our patients were male (63%) compared to female (37%). In table 1 we distributed our study people based on demographics & baseline characteristics. Among 30 patients in group A maximum were from the age group of 41 to 60 years which was 16 (53.3%) cases followed by more than 60 years which was 9(30%) cases. 2 (6.7%) & 3(10%) patients were in the age group of less than or equal to 20 years and 21 to 40 years age group. In 30 patients of group B the majority were in the age group of 41 to 60 years which was 19(63.3%) cases and the other 9(30%) cases were in the age group of more than 60 years. The mean age in the group A and group B patients were 48.73 ± 14.26 years and 51.47 ± 12.35 years respectively. Both in group A and B male is predominant than female which were 19(63.3%) cases and 11(36.7%) cases respectively. Among 30 cases in group A mostly were service holder which was 16(53.3%) cases followed by and businessmen which were 6(20%) cases and 4(13.3%) cases respectively. Among 30 cases in group B mostly were service holder which was 12(40%) followed by businessmen & housewife was 8(26.7%) & 6(20%) respectively. In the student and in others two (6.7%) cases were present in both groups. In group A & B majority were graduate and above which was 19(63.3%) & 16(53.3%) respectively; in group A & B the prevalence of higher secondary, secondary and primary which were 6(20 %) & 7(23.3%); 3(10%) & 4(13.3%) and 2(6.7%) & 3(10%) respectively. The difference is not statistically significant. In table 2 we showed the comparison of pain in VAS between two groups. In group A the mean ± SD pain in VAS before treatment is 8.80±0.86 & 8.07±1.44 respectively. At 1st ,2nd ,7th and 15th day of treatment the mean pain in VAS of group A & group B are (2.30± 0.98 & 5.53±0.99); (2.27 ± 0.70 &5.60 ± 1.24); (2.13± 1.13 & 6.07±1.16) and (2.27 ± 1.39 &6.40 ± 0.74) respectively. Table 3 showed the comparison of pulse, systolic BP & diastolic BP between two groups. In group A the mean ± SD pulse rate before treatment is 87.87 ± 10.65 and in group B it is 90.40 ± 8.55 respectively. At 1st day of treatment the mean pulse rate of group A and group B are 71.60 ± 3.87 and 78.80 ± 7.44 respectively. At 2nd, 7th and 15th day of treatment the mean pulse rate of group A & group B are (71.20 ±2.60 & 76.67±7.24); (73.33±3.60 & 78.27± 6.71) and (73.60±3.40 & 80.67±7.70) respectively. In group A & B the mean ± SD systolic BP before treatment is 118.67±12.46 & 109.33±11.63 respectively. At 1st day of treatment the mean systolic BP of group A and group B are 96.33 ± 6.67 and 105.00± 9.06 respectively. At 2nd, 7th and 15th day of treatment the mean systolic BP of group A & group B are (98.67 ± 9.16 &102.00 ± 8.62); (106.67 ± 8.17 &113.33±4.88) and (109.67±8.96 &115.33±6.40) respectively. In group A & B the mean±SD diastolic blood pressure before treatment is 78.33 ± 13.05 & 76.00 ± 9.86 respectively. At 1st, 2nd, 7th and 15th day of treatment the mean diastolic blood pressure of group A and group B are (60.67± 7.04 & 71.33 ± 7.43); (65.33 ±6.40 & 68.67 ± 7.43); (68.67 ± 5.16 & 75.33 ± 5.16) and (72.67 ± 5.94 & 74.67 ± 5.16) respectively. In table 4 we showed the adverse effects of before & after treatment between two groups. Before starting the treatment mild anorexia was found in 8 (27%) & 10(33%) cases among group A & B. Moderate anorexia was found in 12 (40%) cases and 8 (27%) cases in group A and group B respectively. Severe anorexia was seen in 10 (33%) cases and 12(40%) cases in group A and group B respectively. In 1st day of treatment mild anorexia was found in 11(37%) and 8(27%) cases in group A and group B respectively. Moderate anorexia was found in 9 (30%) and 12 (40%) cases in group A and group B respectively. Anorexia was found absent in group A & B by 10(33%) & 9(30%) respectively. At 15th day of treatment we found mild was present in 16(53%) & 2(7%); moderate was 10(33%) & 16(53%) in group A & B respectively. Severe was found in 12(40%) cases in group B and anorexia was absent in 4(13%) cases among group A. In group A majority of patients had moderate vomiting 12(40%) & severe vomiting 10(33%) and in group B majority of them had severe vomiting 12(40%), mild vomiting 10(33%) before starting treatment. At 2nd & 7th day of treatment vomiting was absent in group A but in group B severe was seen 27% & 23% ; moderate was seen 33% & 40% respectively. At 15th day of treatment vomiting was absent in 13% ; mild was seen in 60% in group A while in group B mild was 33% & severe was 13% respectively. Before starting treatment sleep disturbance was severe in 10(33%) & 12(40%) patients in group A & B respectively. After 15th day of treatment we found severe sleep disturbance was 13% in group B on the other hand sleep disturbance was absent in 13% in group A respectively.

DISCUSSION

In our study we found the majority (58%) of our patients were aged between 41-60 years old followed by 30% were aged above 60 years old. The least prevalence 5% & 7% was found among <= 20 and 21-40 years old respectively (Figure 1]). In this study we found majority of our patients were male (63%) compared to female (37%) (Figure 2). Among 30 patients in group A maximum were from the age group of 41 to 60 years which was 16 (53.3%) cases followed by more than 60 years which was 9(30%) cases. 2 (6.7%) & 3(10%) patients were in the age group of less than or equal to 20 years and 21 to 40 years age group. In 30 patients of group B the majority were in the age group of 41 to 60 years which was 19(63.3%) cases and the other 9(30%) cases were in the age group of more than 60 years. The mean age in the group A and group B patients were 48.73 ± 14.26 years and 51.47 ± 12.35 years respectively (Table 1). Similar result was found by (Wang *et al*., 2003) and stated that the majority of pancreatic cancer were seen in the age group of 60 years and older [20]. In another study it was found that

the risk of pancreatic cancer goes up with age. The disease is rare in people under 45, and the average age when the disease is found is 72. (Anand *et al*., 2010) mentioned that those aged 60-80 years are most affected. They also added that the pancreatic adenocarcinoma is uncommon but not rare in those younger than 55 years. It is uncommon in those younger than 40 years which is consistent with our study [21]. Both in group A and B male is predominant than female which were 19(63.3%) cases and 11(36.7%) cases respectively (Table 1). A study (Anand *et al*., 2010) mentioned that pancreatic cancer is more common in men than in women. They also added that the male-to-female ratio has been decreasing recently, suggesting that more women are developing the malignancy [21]. Another study (Wang *et al*., 2003) also found a similar result and demonstrated that the rate was higher in men than in women [20]. Among 30 cases in group A mostly were service holder which was 16(53.3%) cases followed by and businessmen which were 6(20%) cases and 4(13.3%) cases respectively. Among 30 cases in group B mostly were service holder which was 12(40%) followed by businessmen & housewife was 8(26.7%) & 6(20%) respectively. In the student and in others two (6.7%) cases were present in both groups. In group A & B majority were graduate and above which was 19(63.3%) & 16(53.3%) respectively; in group A & B the prevalence of higher secondary, secondary and primary which were 6(20 %) & 7(23.3%); 3(10%) & 4(13.3%) and 2(6.7%) & 3(10%) respectively. The difference is not statistically significant (Table 1). A study by (Ojajärvi 2006) found a similar result. They also added that excess risks of pancreatic cancer associated with occupational exposures to ionizing radiation, nonchlorinated solvents, and pesticides which is inconsistent with this study.[22] In this study the mean ± SD pain in VAS of group A & B before treatment is 8.80±0.86 & 8.07±1.44 respectively. At 1st ,2nd ,7th and 15th day of treatment the mean pain in VAS of group A & group B are (2.30± 0.98 & 5.53±0.99); (2.27 ± 0.70 &5.60 ± 1.24); (2.13± 1.13 & 6.07±1.16) and (2.27 ± 1.39 &6.40 ± 0.74) respectively (Table 2). Similar result was found by (Moore & Adler 2009) and mentioned that VAS scores in the CPN group were statistically lower for the first 4 weeks after the procedure than in the NSAID-morphine group. Opioid use was significantly lower in the CPN group at 4 to 7 weeks. At 10 weeks, opioid use was lower, but not significantly, in the CPN group. CPN was associated with lower VAS scores for pain at 2, 4, and 8 weeks [23]. A study by (Yan & Myers 2007) also found a similar result and demonstrated that in patients with unresectable pancreatic cancer, NCPB is associated with improved pain control, and reduced narcotic usage compared with standard treatment [24]. In group A the mean ± SD pulse rate before treatment is 87.87 ± 10.65 and in group B it is 90.40 ± 8.55 respectively. At 1st day of treatment the mean pulse rate of group A and group B are 71.60 ± 3.87 and 78.80 ± 7.44 respectively. At 2nd, 7th and 15th day of treatment the mean pulse rate of group A & group B are (71.20 ±2.60 & 76.67±7.24); (73.33±3.60&78.27± 6.71) and (73.60±3.40 & 80.67±7.70) respectively. In group A & B the mean ± SD systolic BP before treatment is 118.67±12.46 & 109.33±11.63 respectively. At 1st day of treatment the mean systolic BP of group A and group B are 96.33 ± 6.67 and 105.00± 9.06 respectively. At 2nd,7th and 15th day of treatment the mean systolic BP of group A & group B are (98.67 ± 9.16 &102.00 ± 8.62); (106.67 ± 8.17 &113.33±4.88) and (109.67±8.96 &115.33±6.40) respectively. In group A & B the mean±SD diastolic blood pressure before treatment is 78.33 ± 13.05 & 76.00 ± 9.86 respectively. At 1st , 2nd, 7th and 15th day of treatment the mean diastolic blood pressure of group A and group B are (60.67± 7.04 & 71.33 ± 7.43); (65.33 ±6.40 & 68.67 ± 7.43); (68.67 ± 5.16 & 75.33 ± 5.16) and (72.67 ± 5.94 & 74.67 ± 5.16) respectively (Table 3). In our study we found before starting the treatment mild anorexia in 8 (27%) & 10(33%) cases among group A & B. Moderate anorexia were found in 12 (40%) cases and 8 (27%) cases in group A and group B respectively. Severe anorexia was seen in 10 (33%) cases and 12(40%) cases in group A and group B respectively. In 1st day of treatment mild anorexia was found in 11(37%) and 8(27%) cases in group A and group B respectively. Moderate anorexia was found in 9 (30%) and 12 (40%) cases in group A and group B respectively. Anorexia was found absent in group A & B by 10(33%) & 9(30%) respectively. At 15th day of treatment we found mild was present in 16(53%) & 2(7%); moderate was 10(33%) & 16(53%) in group A & B respectively. Severe was found in 12(40%) cases in group B and anorexia was absent in 4(13%) cases among group A. In group A majority of patients had moderate vomiting 12(40%) & severe vomiting 10(33%) and in group B majority of them had severe vomiting 12(40%), mild vomiting 10(33%) before starting treatment. At 2nd & 7th day of treatment vomiting was absent in group A but in group B severe was seen 27% & 23%; moderate was seen 33% & 40% respectively. At 15th day of treatment vomiting was absent in 13%; mild was seen in 60% in group A while in group B mild was 33% & severe was 13% respectively. Before starting treatment sleep disturbance was severe in 10(33%) & 12(40%) patients in group A & B respectively. After 15th day of treatment we found severe sleep disturbance was 13% in group B on the other hand sleep disturbance was absent in 13% in group A respectively (Table 4).

Limitations of the study

Our study was a single centre study. We could only study a few adverse effects within a short study period. There are more cancer symptoms or adverse effects like insomnia, fatigue, nausea, constipation and yet the most treatable of cancer complaints needs to be evaluated. After evaluating once those patients we did not follow-up them and have not known other possible interference that may happen in the long term with these patients.

Conclusion and Recommendations

In our study, we tried to find the adverse effect between analgesics and coeliac plexus block among patients with carcinoma of pancreas. Neurolytic celiac plexus block (NCPB) is commonly used to treat pain of upper abdominal cancer that fails to respond to narcotic analgesics. CPB refers to the temporary inhibition of the celiac plexus often achieved with a corticosteroid injection in patients with benign pancreatic diseases like chronic pancreatitis.The findings of this study can be concluded that in patients with unresectable pancreatic cancer, neurolytic celiac plexus blockade (NCPB) is associated with improved pain control, and reduced narcotic usage and constipation compared with standard treatment with clinical significance. So further study with a prospective and longitudinal study design including larger sample size needs to be done to identify more adverse effects of NCPB and analgesics to relieve pain.

References

1. Jemal, A., Murray, T., & Samuels, A. (2003). Cancer statistics, 2003. *CA Cancer J Clin*, 53, 5-26.
2. Michaud, D. S. (2004). Epidemiology of pancreatic cancer. *Minerva chirurgica*, 59(2), 99-111.
3. Greenlee, R. T., Murray, T., Bolden, S., & Wingo, P. A. (2000). Cancer statistics, 2000. CA: a cancer journal for clinicians, 50(1), 7-33.
4. Saif, M. W. (2008a). Is there a standard of care for the management of advanced pancreatic cancer?. Highlights from the Gastrointestinal Cancers Symposium. Orlando, FL, USA. January 25-27, 2008. JOP. *J Pancreas*, 9, 91-98.
5. Michaels, A. J., & Draganov, P. V. (2007). Endoscopic ultrasonography guided celiac plexus neurolysis and celiac plexus block in the management of pain due to pancreatic cancer and chronic pancreatitis. *World journal of gastroenterology: WJG*, *13*(26), 3575.
6. Maria-Engler, S. S., Corrêa-Giannella, M. L. C., Labriola, L., Krogh, K., Colin, C., Lojudice, F. H., ... & Sogayar, M. C. (2004). Co-localization of nestin and insulin and expression of islet cell markers in long-term human pancreatic nestin-positive cell cultures. *Journal of endocrinology*, *183*(3), 455-467.
7. Hunstad, D. A., & Norton, J. A. (1995). Management of pancreatic carcinoma. *Surgical Oncology*, 4(2), 61-74.
8. Pedrazzoli, S., Beger, H. G., Obertop, H., Andrén-Sandberg, Å., Fernández-Cruz, L., Henne-Bruns, D., ... & Neoptolemos, J. P. (1999). A surgical and pathological based classification of resective treatment of pancreatic cancer. *Digestive surgery*, *16*(4), 337-345.
9. Van Esch, A. A. J., Wilder-Smith, O. H. G., Jansen, J. B. M. J., Van Goor, H., & Drenth, J. P. H. (2006). Pharmacological management of pain in chronic pancreatitis. *Digestive and liver disease*, *38*(7), 518-526.
10. Ahles, T. A., Blanchard, E. B., & Ruckdeschel, J. C. (1983). The multidimensional nature of cancer-related pain. *Pain*, *17*(3), 277-288.
11. Brescia, F. J. (2004). Palliative care in pancreatic cancer. *Cancer Control*, *11*(1), 39-45.
12. Solomon, M. Z., O'Donnell, L., Jennings, B., Guilfoy, V., Wolf, S. M., Nolan, K., ... & Donnelley, S. (1993). Decisions near the end of life: professional views on life-sustaining treatments. *American Journal of Public Health*, *83*(1), 14-23.
13. Levin, D. N., Cleeland, C. S., & Dar, R. (1985). Public attitudes toward cancer pain. *Cancer*, *56*(9), 2337-2339.
14. Theodosiadis, P., Grosomanidis, V., & Touroutoglou, N. (2006). Anterior approach to celiac plexus block using CT guidance. *The Greek E Jour of Perio Med*, *4*, 73-79.
15. Staats, P. S., Hekmat, H., Sauter, P., & Lillemoe, K. (2001). The effects of alcohol celiac plexus block, pain, and mood on longevity in patients with unresectable pancreatic cancer: a double-blind, randomized, placebo-controlled study. *Pain Medicine*, *2*(1), 28-34.
16. Levy, M. J., Wiersema, M. J., & Chari, S. T. (2006). Chronic pancreatitis: focal pancreatitis or cancer? Is there a role for FNA/biopsy? Autoimmune pancreatitis. *Endoscopy*, *39*(S 1), 30-35.
17. Schmulewitz, N., & Hawes, R. (2003). EUS-guided celiac plexus neurolysis–technique and indication. *Endoscopy*, *35*(08), S49-S53.
18. Moore, D. C. (2004). The dreaded complications from neurolytic celiac plexus blocks are preventable!. *Regional anesthesia and pain medicine*, *29*(4), 377-378.
19. Perello, A., Ashford, N. S., & Dolin, S. J. (1999). Coeliac plexus block using computed tomography guidance. *Palliative medicine*, *13*(5), 419-425.
20. Wang, L., Yang, G. H., Lu, X. H., Huang, Z. J., & Li, H. (2003). Pancreatic cancer mortality in China (1991-2000). *World journal of gastroenterology: WJG*, *9*(8), 1819-1823.
21. Anand, M. K. N., Boylan, C., & Gupta, N. (2010). eMedicine Specialties: Radiology Gastrointestinal; Pancreas, Adenocarcinoma.
22. Ojajärvi, A. (2006). Occupational determinants of pancreatic cancer. People and Work Research Reports 75; Finnish Institute of Occupational Health; University of Helsinki.
23. Moore, J. C., & Adler, D. G. (2009). Celiac plexus neurolysis for pain relief in pancreatic cancer. *The journal of supportive oncology*, *7*(3), 83-87.
24. Yan, B. M., & Myers, R. P. (2007). Neurolytic celiac plexus block for pain control in unresectable pancreatic cancer. *Official journal of the American College of Gastroenterology| ACG*, *102*(2), 430-438.