

Table 1: Association between obstructive jaundice and preoperative patient characteristics in patients undergoing pancreaticoduodenectomy (n=138)

	Preoperative Serum Bilirubin				P
	$\leq 17$	18-35	35-250	$> 250$	
Age ( $\leq 65 / > 65$ )	32/33	13/9	16/16	9/10	0.935
Sex (Male/Female)	48/17	14/8	22/10	9/10	0.028
BMI (Normal/Overweight)	30/35	12/10	20/12	7/12	0.82
Smoking (No / Yes)	48/17	12/10	18/14	10/9	0.038
PPS ( $\leq 14 / > 14$ )	39/22	16/5	9/23	8/11	0.004
Cardiac disease (No/Yes)	35/28	13/9	17/15	13/6	0.539
Respiratory disease (No/Yes)	57/6	20/2	29/3	18/1	0.664
Biliary Stent (No/Yes)	29/20	3/12	6/17	18/0	0.201
Cancer (No/Yes)	26/39	3/19	3/29	0/19	$< 0.001$

Table 2: Association between obstructive jaundice and preoperative biochemical parameters in patients undergoing pancreaticoduodenectomy (n=138)

	Preoperative Serum Bilirubin				P
	≤ 17	18-35	35-250	> 250	
Hb	13(6.1-16.8)	13.2(10.8-15.8)	11.85(9.2-15.5)	11.7(10.3-13.6)	0.001
Hct	0.391(0.201-0.484)	0.397(0.34-0.456)	0.355(0.285-0.449)	0.355(0.294-0.392)	0.001
MCV	90.1(72-109.2)	93.85(88.4-102.5)	92.95(80-104.7)	87.85(61-94.7)	0.001
WCC	7.6(4-12.7)	7.55(5-19.3)	8.15(4.6-11.7)	7(3.9-11.1)	0.591
PT	11(10-14)	11(9-14)	11(9-17)	11(10-16)	0.618
Urea	5(3-11.2)	5.2(3-14.4)	5.5(2.3-9.5)	4.5(1.6-8.6)	0.093
Creatinine	71(49-121)	74.5(54-129)	71(42-140)	65(40-129)	0.221
Sodium	138(131-143)	138(131-142)	138(129-142)	135(128-140)	0.001
Potassium	4.1(3.4-5.1)	4.3(3.8-5.5)	4.1(3-4.8)	3.8(2.9-4.3)	0.001
Chloride	104(97-110)	104(98-112)	104(92-113)	99(92-107)	0.002
AST	21(8-123)	29(17-120)	68.5(20-374)	92.5(33-420)	0.001
ALT	25(6-227)	31(18-239)	86.5(18-671)	95(34-427)	0.001
GGT	81(9-3165)	111(10-916)	263(37-1921)	495(51-1881)	0.001
ALP	110(47-1438)	150(69-413)	233(97-1517)	372(166-1432)	0.001
CRP	3.6(0.3-89)	4.3(0.3-135)	6.85(0.7-94)	13(1.7-51)	0.001
Albumin	37(18-46)	36(26-42)	31(19-38)	25(18-33)	0.001

Table 3: Association between obstructive jaundice and preoperative pulmonary function tests in patients undergoing pancreaticoduodenectomy

	$\leq 17$	Preoperative Serum Bilirubin			P
		18-35	35-250	> 250	
FVC	4.09 (2.48-6.75)	3.76 (1.5-5.79)	3.76 (2.26-5.96)	3.35 (2.36-5.37)	0.092
FEV1	2.95 (1.14-5.27)	2.90 (1.3-4.77)	2.68 (1.83-3.86)	2.72 (1.31-4.76)	0.556
PREDICTED FEV1 (%)	105.00 (36-153)	98.50 (59-148)	103.00 (79-140)	101.00 (81-137)	0.761
FEV1/FVC	72.00 (29-88)	73.00 (58-86)	75.50 (60-85)	78.00 (55-88)	0.115
PREDICTED FEV1/FVC	94.00 (37-117)	96.00 (73-114)	99.00 (77-111)	102.00 (72-112)	0.107

Table 4: Association between obstructive jaundice and CPET in patients undergoing pancreaticoduodenectomy (n=138)

	≤ 17	18-35	35-250	> 250	P
At Anaerobic Threshold					
Load (Watts)	44.34 (0-120)	33.50 (7.33-69)	41.00 (0-68)	38.33 (11-96)	.313
Min Ventilation (VE) (l/min)	25.00 (14-41)	23.04 (13-34.5)	23.00 (14-35)	22.00 (13-39)	.107
Tidal Volume (litres)	1.26 (0.83-2.37)	1.09 (0.59-1.73)	1.06 (0.54-1.76)	1.08 (0.58-2.02)	.017
VO2 (ml/kg/min)	11.20 (6-16.9)	10.65 (7.2-13.3)	10.30 (7.7-16.5)	9.83 (6.7-17.4)	.033
Heart Rate	108.25 (75-149.5)	107.25 (70-139.5)	101.00 (66.5-136)	112.33 (76.67-153)	.393
Respiratory Rate	19.00 (12-36.67)	22.00 (15-31)	21.00 (10.33-32)	19.00 (14.5-26)	.022
At Peak Exercise					
Load	94.00 (48-192)	87.50 (41-134)	73.00 (30-160)	85.00 (38-153)	.150
Minute Ventilation(VE) (l/min)	53.50 (30-125)	46.50 (25-79)	46.00 (22-88)	48.00 (32-100)	.066
Tidal Volume (litres)	1.95 (1.22-3.3)	1.64 (0.82-3.27)	1.62 (1.05-2.82)	1.86 (1.03-2.71)	.088
VO2 (ml/kg/min)	16.60 (10.2-33.2)	14.80 (10.5-24.7)	15.55 (9.6-28.1)	15.20 (9.8-24.8)	.093

Table 5: Effect of post-PBD obstructive jaundice on anaerobic threshold

Anaerobic threshold (10 / 10)	Post-PBD Bil 35	Post-PBD Bil;35	p-value
	21/11	8/9	0.213

Table 6: The relationship between clinico-pathological characteristics and low anaerobic threshold ( $\leq 10$  ml/kg/min) in patients undergoing pancreatic surgery: Univariate and multivariate binary logistic regression analysis

Variable	n (%)	HR	95% CI	P-value	HR	95% CI	P-value
Clinical Characteristics							
Age	65						
	$\leq 65$	1.19	0.60-2.35	0.628			
Sex	95						
	Male						
	Female	2.74	1.30-5.74	0.008	3.75	1.57-8.95	0.003
BMI	25						
	$\leq 25$	3.09	1.51-6.32	0.002	3.65	1.61-8.26	0.002
Smoking	88						
	No						
	Yes	1.38	0.68-2.79	0.378			
Cardiovascular disease	78						
	No						
	Yes	0.82	0.41-1.64	0.569			
Respiratory disease	124						
	No						
	Yes	2.37	0.71-7.91	0.159			
Cancer	32						
	No						
	Yes	3.59	1.36-9.43	0.010	4.02	1.33-12.16	0.014
POSSUM Physiology Score	72						
	14						
	$\leq 14$	2.06	1.02-4.17	0.044			0.164
PBD	56						
	No						
	Yes	0.69	0.32-1.50	0.347			
Bilirubin (mol/L)	65						
	17						
	18-35	1.49	0.54-4.16	0.444			0.911
	36-250	2.30	0.95-5.56	0.064			0.537
	$\leq 250$	5.66	1.87-17.16	0.002			0.443
Haemoglobin (g/dL)	95						
	12						
	$\leq 12$	2.74	1.30-5.74	0.008			0.214
CRP (mg/dL)	10						
	10						
	$\leq 10$	2.18	1.06-4.51	0.035	2.98	1.29-6.86	0.010
Albumin	65						
	35						
	$\leq 35$	1.53	0.76-3.05	0.231			
Prothrombin Time	117						
	12						
	$\leq 12$	2.38	0.93-6.12	0.071			