**Table I: Relationship between clinical parameters and prevalence of SSI.**

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| --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |
| **Parameter** | **SSI Present****Frequency (%)** | **SSI Absent****Frequency (%)** | **Total** | **X2** | **df** | **P value** |
|  |  |  |  |  |  |  |
| **Age**< 2021-3031-4041-5051-6061-7071-80**Sex**Male Female**Type of surgery**ElectiveEmergency**ASA status of patients**IIIIIIIVV**Class of wounds**CleanClean contaminatedContaminatedDirty**Duration of surgery**< 1 hour1-2 hours2-3 hours**Cadre of surgeon**RegistrarSenior RegistrarConsultant**Co-morbid factors**DiabetesAnaemiaSmokingRVDObesityCLD |  6 (25.0)27 (43.6)22 (43.1)16 (41.0) 9 (31.0) 3 (20.0) 2 (66.7)59 (37.6) 26 (39.4) 17 (25.4)68 (43.6) 4 (14.8) 9 (12.2)49 (51.6)21 (91.3) 2 (50.0) 3 (13.6)12 (27.3)37 (35.6)41 (77.4) 2 (10.0)47 (33.3)36 (59.0)11(64.7)66 (39.5) 8 (20.5)1(16.7)17 (38.6)15 (48.4)11 (68.8)27 (100.0)3 (60.0) | 18 (75.0) 35 (56.4)29 (56.9)23 (58.9)20 (69.0)12 (80.0)1 (33.3)98 (62.4)40 (60.6)48 (71.6)90 (57.7)23 (85.2)65 (87.8)46 (48.4) 2 (8.7) 2 (50.0)19 (86.4)32 (72.7)67 (64.4)12 (22.6)18 (90.0)94 (66.7)25 (41.0) 6 (35.3)101 (60.5) 31 (79.5)5 (83.3)27 (61.4)16 (51.6)5 (31.2)0 (0.0)2 (40.0) | 24 (100.0)62 (100.0)51 (100.0)39 (100.0)29 (100.0)15 (100.0 3 (100.0)157 (100.0) 66 (100.00 67 (100.0)156 (100.0)27 (100.0)74 (100.0)95 (100.0)23 (100.0) 4 (100.0) 22 (100.0) 44 (100.0)104 (100.0) 53 (100.0) 20 (100.0)141 (100.0) 61 (100.0) 17 (100.0)167 (100.0) 39 (100.0)6 (100.0)44 (100.0)31 (100.0)16 (100.0)27 (100.0)5 (100.0) |  6.346 0.0653.86762.47256.19019.33110.3599.274 | 51143226 | 0.2740.7990.049< 0.001< 0.001< 0.0010.0060.099 |

Key: CLD-chronic liver disease, RVD-retroviral disease

## Table II: Indications for emergency laparotomy and attendant SSI rates in 156 patients

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| --- | --- | --- | --- |
| **Indication**  | **Procedure done** | **Number** |  **SSI Present****n (%) Cum (%)**  |
| **Intestinal obstruction (without peritonitis)** 1. Colonic tumour 2. Rectal tumours3. Gangrenous sigmoid volvulus4. Obstructed sigmoid volvulus5. Adhesive intestinal obstruction**Sub-total** | Biopsy +colostomyResection + end-to-end anastomosisBiopsy + colostomyResection + colostomyResection + anastomosisAdhesiolysisAdhesiolysis + resection + anastomosis |  9 811 6 5  8 4**51** | 1 (1.9)3 (5.9)2 (3.9)5 (9.8)3 (5.9)1(1.9)2 (3.9)**17 (33.3)** | 1.44.42.97.44.41.42.9**(25.0)** |
| **Oesophageal pathologies** 1. Corrosive oesophageal stricture2. Oesophageal carcinoma**Sub-total** | Feeding GastrostomyFeeding Gastrostomy |  2 4 **6** | 1 (16.67)1 (16.67)**2 (33.33)** | 1.41.4**(2.9)** |
| **Peritonitis** 1. Typhoid ileal perforation2. Duodenal (peptic) ulcer perforation3. Gastric (peptic) ulcer perforation4. Small bowel perforation (Blunt abdominal injury)**Sub-total** | Right hemicolectomy + ileo-transverse anastomosisSegmental resection + ileo-ileal anastomosisSimple closureClosure of perforation + omental patchBiopsy + closure of perforation + omental patchClosure of perforations |   910  41110 9**53** | 7 (13.2)10 (18.9)2 (3.8)7 (13.2)4 (7.6)4 (7.6)**34 (64.2)** | 10.314.72.910.35.95.9**(50.0)** |
| **Penetrating Abdominal injuries** 1. Traumatic gastric perforation2. Traumatic small bowel perforations3. Left colonic perforation + splenic injury4. Left colonic perforation5. Transverse colon perforation6. Liver laceration + splenic laceration**Sub-total** | Closure of perforationResection + anastomosisColostomy + splenectomyColostomyColostomySuturing + Splenectomy |  6 4 9 6 3 3**31** | 1 (3.2)1 (3.2)4 (13.0)3 (9.7)1 (3.2)0 (0.0)**10 (32.3)** |  1.41.45.94.41.4 0.0 **(14.7)** |
| **Blunt abdominal injuries**  1. Small bowel contusions + mesenteric contusion2. Isolated liver laceration **Sub-total** | Resection + anastomosisOmental patch |  5 2  **7** | 0 (0.0)0 (0.0)**0** | 0 (0.0)0 (0.0)**0** |
| **Enterocutaneous fistula (High output)**[Ileal =6, Jejunal=2]**Sub-total** | Right hemicolectomy + ileo transverse anastomosisResection + jejuno-jejunal anastomosis | 62**8** | 4 (50.0)1 (12.5)**5 (62.5)** | 5.91.5 **(7.4)** |

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| Key: Cum (%)-cumulative number and percentage with respect to total patients in the study group. |

**Table III: Indications and occurrence of surgical site infection in elective laparotomies.**

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| **Indication** | **Procedure done** | **Number** |  **SSI present** |
| **n (%)** | **Cum %** |
|  |  |  |  |  |
|  **Oesophageal tumour****Sub-total** | Gastrostomy |  4 **4** |  1(5.88)**1 (25.0)** | 5.9**5.9** |
|  **Gastro-intestinal pathologies** 1. Gastric tumours2. Colonic tumours3. Recto-anal tumours**Sub-total** | Gastro-jejunostomyResection + anastomosisBiopsy + colostomyBiopsy + colostomy |  912 4 5**30** | 1 (5.88)2 (11.76)1 (5.88)1 (5.88)**5 (16.67)** | 5.911.765.95.9**35.4** |
| **Hepato-biliary pathologies** 1. Obstructive jaundice2. Calculous cholecystitis**Sub-total** | Double by-passTriple by-passCholecystectomy |  4 916**29** | 1 (5.88)2 (11.76)2 (11.76)**5 (17.24)** | 5.911.7611.76**29.4** |
| **Enterocutaneous fistula** (ileal) [Failed conservative management] **Sub-total** | Right hemicolectomy+ ileo-transverse anastomosis |  3 **3** | 2 (66.67)**2 (66.67)** | 11.76**11.76** |
| **Superficial wound dehiscence**\***Sub-total** | Secondary wound closure | 16**16** | 0 (0.0)**0** | 0.0**0** |
|  **Intra-peritoneal abscess (**Blunt abdominal injury)\***Sub-total** | Drainage of intraperitoneal abscess |  3**3** | 2(66.67)**2 (66.67)** | 11.76**11.76** |
| **Colostomy reversal\***Colonic tumourSigmoid volvulus**Sub-total** | Resection + colostomy reversalColostomy reversal | 14 2**16** | 2 (12.5)0 (0.0)**2 (12.5)** | 11.760**11.76** |

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**KEY :** \* Re-do procedure; **Cum %** - Cumulative percentage of SSI with respect to total number of patients with SSI in the group.

**Table IV: Multivariate logistic regression analysis of risk factors responsible for wound infection.**

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| **Factor Odd’s ratio 95% CI Coefficient Standard error Z statistics P-value** |
| **Age**   < 20 1 - - - - -21-30 0.415 0.1315- 1.3099 -0.8794 0.5864 -1.4996 0.134 31-40 0.3064 0.0965-0.972 -1.1829 0.5897 -2.0059 0.44941-50 0.067 0.0118-0.3809 -2.7033 0.8868 -3.0484 0.23151-60 0.2545 0.0383-1.6916 -1.3683 0.9663 -1.1960 0.15761-70 0.4498 0.1608-1.2582 -0.7989 0.5248 -1.5223 0.12871-80 1.101 0.897-1.123 1.443 0.056 1.501 0.119 **Sex** Male 1 - - - - -Female 1.1814 0.6147-2.2707 0.1667 0.3334 0.500 0.617 **Type of surgery**Elective 1 - - - - - Emergency 3.1098 1.2985-7.448 1.1346 0.4456 2.5461 0.011 **Duration of surgery****<** 1 hour 1 - - - - - 1-2 hours 2.0882 0.4085-10.6755 0.7363 0.8325 0.8844 0.376 2-3 hours 15.8296 2.776-90.2528 2.7619 0.881 3.1097 0.002 **Class of wounds**Clean 1 - - - - -C/ contaminated 1.033 0.1807-5.938 0.0352 0.8909 0.00395 0.969Contaminated 4.2793 1.006-18.2036 1.4538 0.7387 1.968 0.049 Dirty 41.345 8.002-213.63 3.722 0.8379 4.4419 0.000**ASA status**I 1 - - - - -II 0.7501 0.3694-1.5232 -0.2875 0.3614 -0.7956 0.426 III 1.1144 0.976-1.2724 0.1083 0.0676 1.6014 0.109IV 3.0117 1.04-8.6473 1.1025 0.5381 2.0488 0.004 V 2.5917 1.4603-4.599 0.9523 0.2927 3.2536 0.001 **Cadre of surgeon**Consultant 1 - - - - - Sen. Registrar 0.456 0.3942-1.4563 1.1893 0.5834 1.1123 0.051Registrar 2.153 1.14-5.854 0.9453 0.5567 2.1023 0.003**Cigarette smoking**No 1 - - - - - Yes 0.7501 0.3694-1.5232 -0.2875 0.3614 -0.7956 0.426**Diabetes**Absent 1 - - - - - Present 0.4699 0.0478-4.6226 -0.7552 1.1664 -0.6475 0.517**Obesity**Absent 1 - - - - -Present 1.3708 0.7150-2.6281 0.3154 0.3321 0.9497 0.342 **Anaemia**Absent 1 - - - - - Present 2.5917 1.4603-4.599 0.9523 0.2927 3.2536 0.001 **Retroviral disease** Absent 1 - - - - -Present 3.0117 1.04-8.647 1.1025 0.5381 2.0488 0.004**Use of drain**No 1 **- - - - -** Yes 2.5917 1.4603-4.599 0.9523 0.2927 3.2536 0.001 |