**Supplemental Digital Content 1, Table 1:**

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|  |  | **ITEM** | **SOCEITY  GUIDELINE** | **MEASURE** | **RESULTS** |
| **PROCESS MEASURES** | | | | | |
| **DIAGNOSIS** | 1 | Diagnosis of AP is established by presence of 2 out of 3:  -abdominal pain  -amylase or lipase (>3uln)  -abdominal imaging (ACG) | ACG, JPN, AGA | Appropriate diagnosis of AP | The correct diagnosis of AP should be made in all patients within 48 hours of admission (BSG) |
| 2 | If patient fails to improve in 72 hours contrast enhanced CT scan or MRI is done (ACG, BSG) | ACG, BSG, AGA | CT or MRI if appropriate  (patient not clinically improving in 72 hours) |  |
| **ETIOLOGY** |  | Evaluation for the following etiologies is needed (ACG) | ACG, JPN |  | The etiology should be determined in 80% of cases, no more than 20% should be idiopathic (BSG) |
| 3 | Gallstone disease | ACG | Transabdominal Ultrasound |
| 4 | Alcoholic pancreatitis | ACG, AGA | CAGE: cut down on drinking, annoyed by criticizing drinking, guilty about drinking, need for eye opener (AGA) |
| 5 | In the absence of gallstone and alcohol history evaluate for hypertriglyceridemia | ACG | Serum triglycerides if appropriate (no stones, no alcohol) |
| 6 | >40 years of age pancreatic tumor is considered  This could be CT scan, MRI or EUS | ACG, AGA | Imaging to evaluate for tumor if appropriate (>40 and no etiology) |
| 7 | Genetic testing in patients < 30 years of age: CFTR, SPINK-1, PRSS-1 | ACG, AGA | Genetic testing if appropriate (<30 and no etiology) |
| **STRATIFICATION** | 8 | Hemodynamic status (BISAP, Glasgow score (ACG)  The definition of severity based on the Atlanta criteria should be used. Clinical prognostic features include: obesity, APCHE score > 13 in first 24 hours, C reactive protein >150, Glasgow >3, persistent organ failure > 48 hours) (BSG) | ACG, BSG, JPN | A method of stratification for all patients with AP is done. Severe is defined as:  BISAP> 3  Glasgow >3  APACHE >13  C-reactive protein >150 (AGA) |  |
| 9 | Severity of pancreatitis must be reassessed at 24 and 48 hours since even non-severe cases can become severe (JPN) | JPN | Re-evaluation must be repeated at 24 hours and at 48 hours | In Japan, patients who were admitted with non-severed disease and progressed to poor disease had poor outcome (JPN) |
| 10 | Patients with APACHE scores of >13 in the first 24-48 hours should be transferred to a tertiary care facility able to handle these patients | JPN | Transfer severely ill patients (APACHE >13) to appropriate tertiary care centers |  |
| ***IF SEVERE ACUTE PANCREATITIS*** | | | | | |
| **THERAPY** | 11 | Aggressive hydration-  Defined as 250-500 ml/hour unless cardiac or renal co-morbidities | ACG, AGA | Aggressive hydration if possible | In 2004, infusion volume of <3500 ml resulted in death in 41/67 (61.2%) of patients. Therefore, volume should be greater than this in first 24 hours (JPN) |
| 12 | Goal-directed fluid resuscitation documented | ACG,AGA | Titration of hydration to patient needs | Adequate fluid resuscitation is defined as a urine output of 0.5 ml/hr/Kg (AGA) |
| 13 | Appropriate pain control is needed to control symptoms | JPN, AGA | Pain medication for symptom relief | The use of patient-controlled analgesics may be advantageous. No evidence on needing to avoid MS (AGA) |
| 14 | In critical patients, oxygen administration, ventilation, | JPN, AGA | Close monitoring of oxygenation | Acute respiratory failure is seen in 20% of patients with severe AP (AGA) |
| 15 | follow-up of electrolytes (JAN)  hypocalcemia and hyperglycemia (AGA) | JPN, AGA | Close monitoring of electrolytes and BS |  |
| **ERCP** | 16 | Patients with concurrent acute cholangitis should undergo ERCP  If patient cannot undergo ERCP, then PTC needs to be done | ACG, BSG, JPN, AGA, ASGE | ERCP in patients with concurrent cholangitis (TB >3.4) | When indicated, ERCP should be performed within 72 hours of the onset of pain (BSG)  This is supported by 4 RCT (AGA) |
| 17 | Pancreatic duct (PD) stent and/or post-procedure rectal NSAID to prevent post-ERCP pancreatitis | ACG, AGA | Pancreatic duct stent and/or rectal NSAID suppository | Risk of pancreatitis post stenting PD is reduced from 15.5% to 5.8%. (AGA) |
| **ANTIBIOTICS** | 18 | No routine use of antibiotics | ACG, BSG, AGA | No antibiotic prophylaxis |  |
| 19 | No routine use of antibiotics for sterile necrosis to prevent infection | ACG | No antibiotics in sterile necrosis |  |
| 20 | Selective antibiotics for infected necrosis based on FNA specimen | ACG, AGA | Selective antibiotics in infected necrosis based on FNA |  |
| **NUTRITION** | 21 | Enteral nutrition is recommended to prevent infectious complications | ACG, BSG, JPN | NJ delivery of nutrition to prevent infection | Enteral feeding should be effective in treatment of > 80% of patients with severe AP (BSG)  In 6 RCT, jejunal feedings outperformed TPN with lower risks of infection and decreased need for surgery (AGA)  Incidence of SIRS, nosocomial infection and disease severity are reduced by jejunal feedings (ESPEN) |
| **COMPLICATIONS OF AP** | 22 | Patients with symptomatic pancreatic necrosis (WOPN) should be evaluated by imaging and FNA performed to look for infection | ACG, BSG | Symptomatic patients with pancreatic necrosis should undergo evaluation and FNA | All patients with persistent symptoms and suspicion of sepsis should undergo imaging and evaluation within 7-14 days of onset of pancreatitis (BSG) |
| 23 | In patients with symptomatic infected necrosis (WOPN), minimally invasive drainage is considered if patient is unstable | ACG | Drainage of infected necrosis if patient is unstable |  |
| 24 | In patients with symptomatic infected necrosis (WOPN), antibiotics are needed if stable | ACG, JPN | Antibiotics for patients with infected necrosis who are stable |  |
| 25 | In patients with non-infected necrosis (WOPN), treat conservatively | ACG, JPN | Conservative management for sterile necrosis |  |
| 26 | Patients who develop fluid collections around the pancreas with a wall are treated conservatively if asymptomatic (AGA) | AGA | Conservative management for asymptomatic pancreatic fluid collections |  |
| 27 | If fluid collections produce symptoms (abdominal pain, obstruction of surrounding structures, become infected) they need drainage (AGA) | AGA | Drainage for symptomatic fluid collections with a wall |  |
| **SURGERY** | 28 | In patients with gallstones, cholecystectomy may be delayed if CBD has been drained by ERCP | JPN | Cholecystectomy delayed until patient is in better medical condition | Early surgery in patients with severed pancreatitis had higher incidence of complications (30.1% vs. 5.1%) and mortality (15.1% vs. 2.4%) than delayed surgery (JPN) |
| ***IF NON-SEVERE AP*** | | | | | |
| **NUTRITION** | 29 | Oral feedings started when clinical signs of abdominal pain resolve | ACG, ESPEN | Oral feedings when pain resolves | There is no data that Enteral or parenteral nutrition is beneficial in patients with non-severe AP (ESPEN) |
| **SURGERY** | 30 | Laparoscopic cholecystectomy prior to discharge to prevent recurrence of AP | ACG, BSG | Cholecystectomy prior to discharge | Cohort studies in Japan confirm that laparoscopic procedures were completed in 94.5% of patients with 5.5% complications and 0.4% mortality (JPN) |
| **MEASURES OF OUTCOME** | | | | | |
| **REPORT CARD** | 31 | % PATIENTS WITH SEVERE AP |  |  |  |
| 32 | % PATIENTS WITH NECROSIS |  |  |  |
| 33 | % PATIENTS WITH INFECTED NECROSIS |  |  |  |
| 34 | LENGTH OF HOSPITAL STAY |  |  |  |
| 35 | ICU HOSPITAL STAY |  |  |  |
| 36 | ORGAN FAILURE RATE |  |  | Definitions: shock (systolic BP <90 mm Hg), pulmonary insufficiency ( PaO2 <60 mm Hg), renal failure (creatinine > 2 mg/dL) (AGA) |
| 37 | MORTALITY RATE |  |  | 2-3% of patients overall die from AP (AGA) in tertiary centers rates of 5-15% are noted (AGA) |
| 38 | COMPLICATIONS |  |  | Local pancreatic complications (pseudocyst, parenchymal necrosis) (AGA) |
| **ERCP** | 39 | SUCCESS RATE OF SPNICTEROTOMY AND STONE EXTRACTION |  |  | Success rate for ERCP,  sphincterotomy and stone extraction is 90% (ASGE) |
| 40 | COMPLICATION RATES FROM ERCP |  |  | Complication rate from ERCP/ES/Stone extraction is 5% (ASGE) |
| 41 | MORATILITY RATES FROM ERCP |  |  | Mortality rate from ERCP/ES/Stone extraction is 1% (ASGE) |
| **WOPN** | 42 | SUCCESS RATE OF ENDOSCOPIC DRAINGE IN WOPN |  |  | Successful drainage is accomplished in 75% (JENIPaN) |
| 43 | COMPLICATION RATE OF DRAINAGE IN WOPN |  |  | Complications occur in 33% (JENIPaN) |
| 44 | MORTALITY RATE OF DRAINGE IN WOPN |  |  | Mortality rate occurs in 11% (JENIPaN) |

ACG, American College of Gastroenterology; AGA, American Gastroenterological Association; AP, acute pancreatitis; ASGE, American Society of Gastrointestinal Endoscopy; BSG, British Society of Gastroenterology; ESPEN, European Society for Clinical Nutrition and Metabolism; JPN, Japan pancreas network