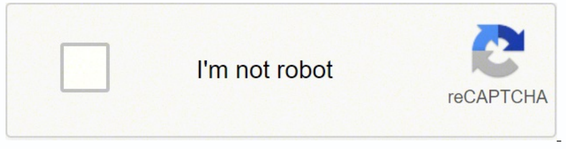


Open

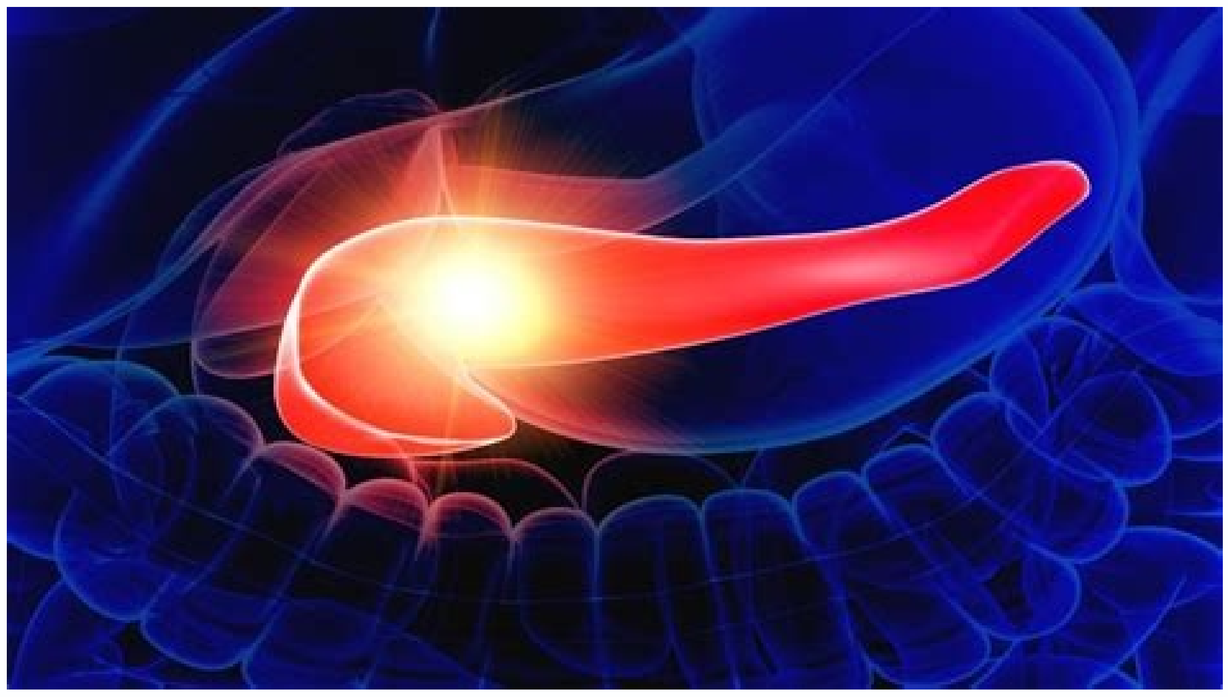
Acute pancreatitis antibiotics guidelines

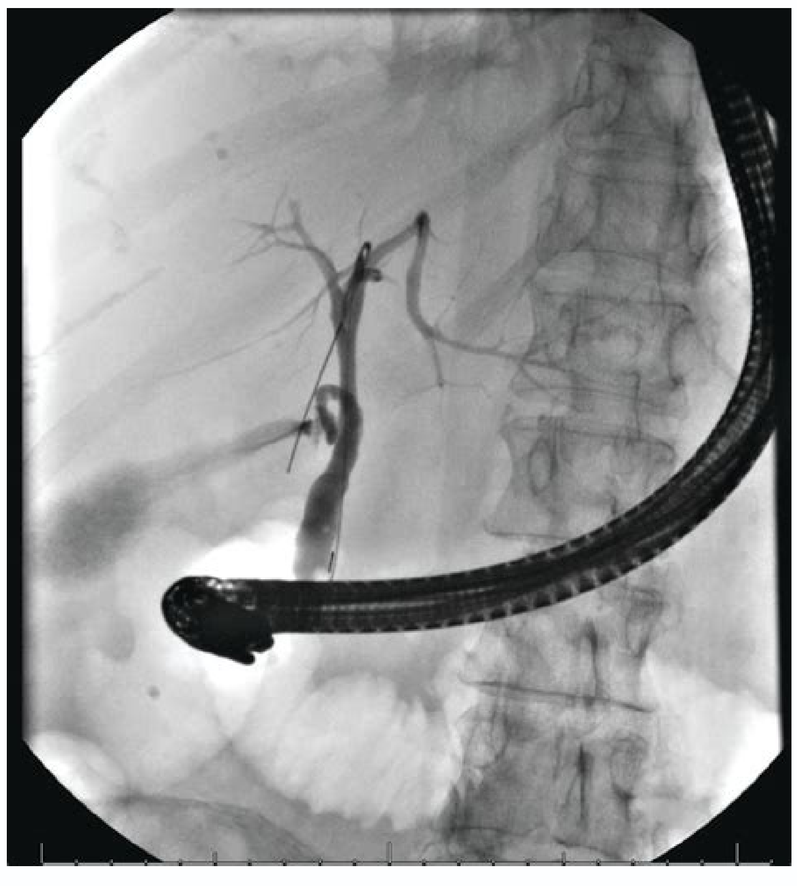
Table 2

Peripancreatic Fluid Collections	
Acute peripancreatic fluid collection	*Homogenous peripancreatic fluid associated with interstitial pancreatitis, without an encapsulating definable wall.*
Acute necrotic collection	*An intra or extra-pancreatic collection, in the setting of necrotizing pancreatitis, which is heterogeneous in appearance with liquid and non-liquid densities, without a definable wall.*
Pancreatic pseudocyst	*Encapsulated collection of fluid in a well-defined wall, with a homogenous fluid density and minimal or no necrosis.*
Walled-off necrosis	*Mature encapsulated collection with heterogeneous liquid and non-liquid densities.*

Table 5: Summary Recommendations for the Management of Acute Pancreatitis in the First 24 Hours

Intervention	Recommendation
Prognostication of severity	Use BISAP or HAPS score, monitor BUN or hematocrit
Fluid resuscitation	Use 250-300 cc/hr of IV fluids Titrate to urine output or changes in BUN or hematocrit
Prophylactic antibiotics	No indication
Early ERCP in biliary pancreatitis	ERCP only if cholangitis or worsening cholestasis with declining clinical course
Adapted from: Fisher JM, Gardner TB. The "golden hours" of management in acute pancreatitis. *Am J Gastroenterol* 2012;107:1146-1150.	





A randomized multicenter clinical trial of antibiotic prophylaxis of septic complications in acute necrotizing pancreatitis with imipenem. The survival in seven days was 68% in the control group, 60% in the Imipenem group (p = 0.071) and 43% in the Ciprofloxacin group (p < 0.01). Pancreas. 2003;37:208–213. [PubMed] [Google Scholar]Robert JH, Frossard JL, Mermillod B, Soravia C, Mensi N, Roth M, Rohner A, Hadengue A, Morel P. Mithofer et al. doi: 10.1046/j.1365-2168.2002.02189.x. [PubMed] [CrossRef] [Google Scholar]Puolakkainen P, Kemppainen E, Leppaniemi A, Sainio V, Hietaranta A, Haapiainen R. The cultures for bacteria and fungus are fundamental in this phase.Although there is no definitive conclusion about the use of antibiotics in AP, strong evidences suggest that they are beneficial. 2000;127:427–432. 1975;83:831–835. 2005;54:426–436. coli (27–35%), Enterococcus (24–26%), Staphylococcus aureus (14–16%), Staphylococcus epidermidis (15%), Klebsiella (15%) Pseudomonas sp (7–11%) and Streptococos (4–7%) [7,40,41].Ampicillin was one of the first antibiotics used in AP, although it has failed to show advantages to these patients, due to poor action in the flora and low penetration in the pancreatic tissue [42].Experimental studies were performed to determine which antibiotic would have a better pancreatic concentration [43,44]. [PubMed] [Google Scholar]Sainio V, Kemppainen E, Puolakkainen P, Taavitsainen M, Kivisaari L, Valtonen V, Haapiainen R, Schroder T, Kivilaakso E. 1997;122:356–361. [PMC free article] [PubMed] [CrossRef] [Google Scholar]Bassi C, Larvin M, Villatoro E. The Cochrane review about the use of antibiotics in AP concluded that despite variations in drug agent, duration of treatment and methodological quality of clinical trials, there is strong evidence that intravenous antibiotic prophylactic therapy for 10 to 14 days decrease the risk of superinfection of necrotic tissue and mortality in patients with SAP with proven pancreatic necrosis at CT [37].Consensus recommendations about the use of antibiotics in acute pancreatitisConsensusOriginRecommendationUhl et al. [PubMed] [CrossRef] [Google Scholar]Bassi C, Falconi M, Talamini G, Uomo G, Papaccio G, Dervenis C. Early prediction of acute pancreatitis: prospective study comparing computed tomography scans, Ranson, Glasgow, acute physiology and chronic evaluation II scores, and various serum markers. A critical review of antibiotic prophylaxis in severe acute pancreatitis. 2002;26:474–478. [PubMed] [CrossRef] [Google Scholar]Bradley EL. Early antibiotic treatment in acute necrotising pancreatitis. We answered the most frequent questions about this topic.Based on these clinical trials and guidelines, we conclude that the best treatment currently is the use of antibiotics in patients with severe acute pancreatitis with more than 30% of pancreatic necrosis. [PubMed] [Google Scholar]Ranson JHC, Rifkind KM, Turner JW. doi: 10.1016/S1091-255X(01)80021-4. J Gastrointest Surg. 1, p = 0,028) in the treatment group. Dtsch Med Wochenschr. 1994;178:475–479. 1995;18:265–270. [PubMed] [CrossRef] [Google Scholar] Alternatively, Ciprofloxacin 2 × 400 mg/day i.v. associated with Metronidazole 3 × 500 mg/day for 14 days can also be considered as an option.AP: acute pancreatitisi.v.: intravenouslySAP: severe acute pancreatitisSIRS: systemic inflammatory response syndromeThe author(s) declare that they have no competing interests.TDC carried out acquisition, analysis, interpretation of the data and drafting of the manuscript.JCA was involved in the interpretation of the data and drafting of the manuscript.SR revised critically the manuscript for the intellectual content till the final version.Authors have read and approved the final manuscript.Imrie CW. [PubMed] [Google Scholar]Beger HG, Bittner R, Block S, Buchler M. 2003;3:115–127. Rev Hosp Clin Fac Med Sao Paulo. [PubMed] [CrossRef] [Google Scholar]De Waele JJ, Vogelaers D, Blot S, Colardyn F. Nevertheless, the fungal infection did not contribute to increase mortality in this group of patients [30].Gloor et al. Acute necrotizing pancreatitis: treatment strategy according to the status of infection. doi: 10.1080/00365529950172899. 2002;17:S15–39. 1. doi: 10.1053/gast.1996.v110.pm8536862. Lancet. This same paper showed that the presence of multi-resistant bacteria was rare (2.9%) [3].Several guidelines about the treatment of AP can be found in the literature, and the majority of them

recommend the early use of antibiotics in patients with pancreatic necrosis (Table 3) [31-39]. doi: 10.1111/j.1443-9573.2005.00188.x. [PubMed] [CrossRef] [Google Scholar]Takeda K, Takada T, Kawarada Y, Hirata K, Mayumi T, Yoshida M, Sekimoto M, Hirota M, Kimura Y, Isaji S, Koizumi M, Otsuki M, Matsuno S. Int J Pancreatol. 2001;5:113–118. Current management of acute pancreatitis. [PubMed] [CrossRef] [Google Scholar]Working Party of the British Society of Gastroenterology; Association of Surgeons of Great Britain and Ireland; Pancreatic Society of Great Britain and Ireland; Association of Upper GI Surgeons of Great Britain and Ireland UK guidelines for the management of acute pancreatitis. Scand J Gastroenterol. in 1996 [18] analyzed prospectively 23 patients with alcoholic SAP that were divided into two groups: one control and one that was treated with Ceftazidime 3 × 2 g/day i.v., Amicacin 2 × 7.5 mg/kg i.v., and Metronidazole 3 × 500 mg i.v. for 10 days. 393–405. Results of a controlled study. The bacteria most frequently found are E. Don't miss your FREE gift. However, at present there are still controversies about this topic.Therefore, some questions remain unclear regarding the use of antibiotics in AP:1-Should we use antibiotics in Acute Pancreatitis?2-Which antibiotic?3-How long?4-Should we wait for more studies?SAP is characterized by the presence of organic failure (Ranson ≥ 3 or APACHE II ≥ 8), or local complications such as necrosis, pseudocyst and abscess [8-11].The Balthazar score on CT scan determines the intensity of local complications. Useful markers for predicting severity and monitoring progression of acute pancreatitis. [PubMed] [Google Scholar]Mithofer K, Fernandez-Del Castillo C, Ferraro M, Lewandrowski K, Rattner DW, Warshaw AL. 2005 [36]GutYesBassi et al. [PubMed] [CrossRef] [Google Scholar]Banks PA, Gerzof SG, Langenvin RE, Silverman SG, Sica GT, Hughes MD. 1986;91:433–438. 1996;110:232–240. [PubMed] [Google Scholar]Schmid SW, Uhl W, Friess H, Malfertheiner P, Buchler MW. 1993;176:480–483. There was no difference in mortality (10% contra 24%, p = 0.18) [47]. They observed a decrease in the infection of pancreatic necrosis in the Imipenem group (3 × 10, p = 0.034). [PMC free article] [PubMed] [CrossRef] [Google Scholar]Isenmann R, Runzi M, Kron M, Kahl S, Kraus D, Jung N, Maier L, Malfertheiner P, Goebell H, Beger HG. 1998;115:1513–1517. doi: 10.1007/s00268-001-0278-y. 7%, respectively).Sainio et al. 1999;34:92–97. doi: 10.1016/S0016-5085(98)70030-7. [PubMed] [CrossRef] [Google Scholar]Delcenserie R, Yzet T, Ducroix JP. 2005;5:10–19. 7% placebo, p = n.s.). doi: 10.1016/S1072-7515(98)00334-2. [Google Scholar]Büchler MW, Gloor B, Muller CA, Friess H, Seiler CA, Uhl W. Spicak et al., studied experimentally the penetration of five antibiotics in the pancreatic tissue of rats with AP, and observed that Cefoperazone (3rd generation cephalosporin) and Ofloxacin had adequate penetration, while Amoxicillin/Clavulanic acid, Piperacillin and Amicacin demonstrated insufficient penetration. Clin Infect Dis. Similarly, Schwarz et al. pp. [PMC free article] [PubMed] [CrossRef] [Google Scholar]Clancy TE, Benoit EP, Ashley SW. The International Association of Pancreatology guidelines for the management of AP recommends the use of prophylactic broadspectrum antibiotics to reduce infection rates in CT-proven necrotizing pancreatitis as a recommendation grade A [31]. [PubMed] [Google Scholar]Ashley SW, Perez A, Pierce EA, Brooks DC, Moore FD, Jr, Whang EE, Banks PA, Zinner MJ. A clinically based classification system for acute pancreatitis: summary of the Atlanta symposium. Antibiotics bioavailability in acute experimental pancreatitis. 1997;132:487–493. [PubMed] [Google Scholar]Craig RM, Dordal E, Myles L. Antibiotic use in necrotizing pancreatitis. The aim of this study is to review the latest clinical trials and guidelines about antibiotics in acute pancreatitis and determine its proper use.Through a Medline search, we selected and analyzed pertinent randomized clinical trials and guidelines that evaluated the use of antibiotics in acute pancreatitis. Thanks for visiting. Ann Intern Med. 2005 [35]Journal of Gastrointestinal SurgeryYesWerner et al. Frequency and time course of pancreatic and extrapancreatic bacterial infection in experimental acute pancreatitis in rats. [PubMed] [CrossRef] [Google Scholar]Pezzilli R. However, the confirmation of necrotizing pancreatitis by CT scan can take at least 72 hours since the onset of symptoms. In: Poston J, Blumgart L, editor. doi: 10.1086/375603. Based on these data, it is reasonable to suppose that a group of patients had benefits receiving early antibiotics. Pancreatology. doi: 10.1046/j.1440-1746.17.s1.2.x. [PubMed] [CrossRef] [Google Scholar]Nathens AB, Curtis JR, Beale RJ, Cook DJ, Moreno RP, Romand JA, Skerrett SJ, Stapleton RD, Ware LB, Waldmann CS. analyzed 103 patients with necrotizing AP that received antibiotics (Imipenem/cilastatin) and concluded that fungal infections when treated properly do not contribute to a worst prognosis. Early treatment with antibiotics reduces the need for surgery in acute necrotizing pancreatitis – a single-center randomized study. [18]Ceftazidime + Amicacin + Metronidazole110*0Placebo123325Schwarz et al. doi: 10.1136/gut.2004.057059. [PubMed] [Google Scholar]Trudel JL, Wittnich C, Brown RA. After 21 days, the infection rate was 71%, 33% and 35% respectively (p = n.s.). Acute pancreatitis: value of CT in establishing prognosis. [16]Imipenem4112*7Placebo333012Sainio et al. doi: 10.1053/j.gastro.2004.07.045. doi: 10.1016/S0002-9610(96)00349-2. Prognostic signs and nonoperative peritoneal lavage in acute pancreatitis. It was established that if any patient developed systemic inflammatory response, organic failure, any kind of infection or clinical deterioration, this patient would be discontinued from the protocol with open antibiotic treatment. [PubMed] [CrossRef] [Google Scholar]Bassi C, Falconi M. doi: 10.1001/archsurg.136.5.592. [PubMed] [CrossRef] [Google Scholar]Werner J, Feuerbach S, Uhl W, Buchler MW. 1999;188:408–441. Although this is not a study comparing Ciprofloxacin, it can suggest that antibiotics of this class can be less effective than Imipenem.Based on these studies and guidelines, we conclude that the recommended antibiotic in AP is Imipenem 3 × 500 mg/day i.v. Alternatively, the use of Ciprofloxacin 2 × 400 mg/day i.v. associated with Metronidazole 3 × 500 mg/day i.v. can also be considered.There are no studies evaluating how long these patients should be treated with antibiotics. After 21 days, the survival was 23% in the control group vs. [PubMed] [CrossRef] [Google Scholar]Nordback I, Sand J, Saaristo R, Paajanen H. 2000;232:619–26. About 40% to 75% of patients with pancreatic necrosis develop infection, 24% after the first week and 71% after the third week [3,4], with mortality rates up to 50% [5,6]. [PubMed] [CrossRef] [Google Scholar]Toouli J, Brooke-Smith M, Bassi C, Carr-Locke D, Telford J, Freeny P, Imrie C, Tandon R. Hepatobiliary and Pancreatic Surgery. [PubMed] [CrossRef] [Google Scholar]Werner J, Hartwig W, Uhl W, Muller C, Buchler MW. The antibiotic recommended is Imipenem 3 × 500 mg/day i.v. for 14 days. demonstrated in an experimental model that bacteria could be detected in the pancreatic tissue six hours after the induction of AP [25]. The use of antibiotics in acute pancreatitis despite recent clinical trials remains controversial. They concluded that antibiotic penetration was not influenced by necrosis of the pancreas [46].In a clinical trial, Bassi et al. Ann Surg. 2004;32:2524–2536. doi: 10.1136/gut.2003.035907. Antibiotic prophylaxis in acute necrotizing pancreatitis: yes or no? Fungal infection in acute necrotizing pancreatitis. Cochrane Database Syst Rev. The role of antibiotic prophylaxis in severe acute pancreatitis. German Antibiotics in Severe Acute Pancreatitis Study Group: Prophylactic antibiotic treatment in patients with predicted severe acute pancreatitis: a placebo-controlled, double-blind trial. Human pancreatic tissue concentration of bactericidal antibiotics. 2002;2:565–573. Only Sainio observed reduction in mortality with the use of antibiotics. The best option for the treatment is Imipenem 3 × 500 mg/day i.v. for 14 days. 1999;45:311–316. One group control and the other treated with Cefuroxime 3 × 1.5 g/day i.v. They observed reduction in the number of pancreatic operations (36 vs. 2006;13:42–47. [PubMed] [CrossRef] [Google Scholar]Tenner S, Banks PA. described a decrease in pancreatic infection in a group of 29 patients, utilizing Ofloxacin and Metronidazole (7% × 46%, respectively) [19].In summary, the studies of Pederzoli, Delcenserie e Schwarz demonstrated reduction in pancreatic infection, although without decrease in mortality. The Best Diets for Cognitive Fitness, is yours absolutely FREE when you sign up to receive Health Alerts from Harvard Medical School Sign up to get tips for living a healthy lifestyle, with ways to fight inflammation and improve cognitive health, plus the latest advances in preventative medicine, diet and exercise, pain relief, blood pressure and cholesterol management, and more. However, 66.7% of patients in this group had their antibiotics changed during the treatment. Management of acute pancreatitis: from surgery to interventional intensive care. IAP guidelines for the surgical management of acute pancreatitis. 1995;346:663–667. 2002;89:1103–1107. Management of the critically ill patient with severe acute pancreatitis. They observed a decrease in septic complications in the treatment group (7 vs. [PMC free article] [PubMed] [CrossRef] [Google Scholar]Gloor B, Muller CA, Worni M, Stahel PF, Redaelli C, Uhl W, Buchler Pancreatic infection in severe pancreatitis : the role of fungus and multiresistant organisms. 2003 [37]CochraneYesChinese pancreatic disease group 2005 [38]Chinese society of gastroenterology (Chinese Journal of Digestive Diseases)YesTakeda et al. The antibiotic with higher penetration was Imipenem, followed by Ciprofloxacin.Penetration of antibiotics in the pancreatic tissue [45]Poor penetrationMedium penetrationGood penetrationNetilmicinMezlocillinCiprofloxacinTobramicinPiperacillinOfloxacinCeftizoximeImipenemCefotaximeMetronidazoleThe pancreatic concentration of an antibiotic is determined by some factors: properties of the antibiotic, anatomy and physiology of the pancreas, alkaline pH, high ion concentration, enzymatic and hormonal regulation, pathologic changes and infection [45]. The use of ampicillin in acute pancreatitis. 2001;234:572–580. doi: 10.1097/00000658-200011000-00001. JOP. However, 28% of patients in the group that received antibiotics had their protocol opened, versus 46% in the placebo group (p = 0.037). observed bacteria in the pancreatic necrosis between 8 and 16 hours after the pancreatitis induction [26].These data suggest that the best time to introduce antibiotics is immediately after the diagnosis of AP and the evaluation of its severity. Controlled clinical trial of Pefloxacin versus Imipenem in severe acute pancreatitis. 2003;4:CD002941. doi: 10.1007/s00268-001-0252-8. 2002 [32]Journal of Gastroenterology and HepatologyYesNathens et al. 1996;172:38s–43s. carried out another study in 1995 [17], analyzing data from 60 patients with SAP. [PMC free article] [PubMed] [Google Scholar]Beger HG, Rau B, Isenmann R, Schwarz M, Gansauge F, Poch B. [PubMed] [Google Scholar]Pancreatic Disease Group, Chinese Society of Gastroenterology & Chinese Medical Association Consensus on the diagnosis and treatment of acute pancreatitis. 1993;128:586–590. Surg Gynecol Obstet. doi: 10.1159/000071269. [17]Cefuroxime30303*Placebo304023Delcenserie et al. doi: 10.1067/msy.2000.104116. [PubMed] [CrossRef] [Google Scholar]Uhl W, Warshaw A, Imrie C, Bassi C, McKay CJ, Lankisch PG, Carter R, Di Magno E, Banks PA, Whitcomb DC, Dervenis C, Ulrich CD, Satake K, Ghaneh P, Hartwig W, Werner J, McEntee G, Neoptolemos JP, Buchler MW. 2002;26:612–619. Guidelines for the management of acute pancreatitis. 2004;126:997–1004. Antibiotic prophylaxis in severe acute pancreatitis. described a decrease from 67% to 32% [14], while Ho & Frey observed a reduction from 75% to 20% in the infection of pancreatic necrosis [15].There are few randomized clinical trials about the use of antibiotics in AP. This is the same opinion of other authors [22,23].Results of a clinical double-blind trial about the use of antibiotics in severe acute pancreatitis [21]Intention to treat (114 patients)Pancreatic necrosis (CT) (76 patients)TreatmentCiprofloxacin/Metronidazole (58 patients)Placebo (56 patients)Ciprofloxacin/Metronidazole (58 patients)Placebo (56 patients)Mortality5%7%7%11%Surgical treatment17%11%24%19%Necrosis infection12%9%17%14%Protocol opened28%*46%37%57%Although the risk for the development of pancreatic infection is higher in the third week, microorganisms can be found in the pancreatic tissue in the first week [24].De Souza et al. Penetration of antibiotics into the pancreas in rats: an effect of acute necrotizing pancreatitis. doi: 10.1097/01.CCM.0000148222.09869.92. Bacterial translocation in acute pancreatitis. After seven days, 75% of the animals in the saline group had infection, while 25% in the Imipenem group (p < 0.01) and 6% in the Ciprofloxacin group (p < 0.01). Banks et al. In contrast, there is no evidence in the literature that the use of antibiotics in the absence of necrosis is beneficial.Based on these studies we believe that the use of antibiotics is benefic to patients with SAP with more than 30% pancreatic necrosis, and starting as soon as possible.Two main aspects must drive the choice of the antibiotics: the flora and the penetration in the pancreatic tissue.One single microorganism causes most of infections in AP. Fungal infections in patients with severe acute pancreatitis and the use of prophylactic therapy. Br J Surg. doi: 10.1159/000084485. [PMC free article] [PubMed] [CrossRef] [Google Scholar]Barie PS. 1996;13:198–201. Ofloxacin penetration into bile and pancreatic juice. [PubMed] [CrossRef] [Google Scholar]Grewe M, Tsiotos GG, Luque de Leon E, Sarr MG. [PubMed] [Google Scholar]Spicák J, Martínek J, Závada F, Moravek J, Melenovsky V. 1989;23:805–807. 2004;127:1015–1016. 8, p = 0.012) and in mortality (7 vs. It was a prospective randomized double-blind trial that analyzed 114 patients, 58 that received antibiotics (Ciprofloxacin 2 × 400 mg/day i.v. + Metronidazole 2 × 500 mg/day i.v.) and 56 that received placebo. Arch Surg. Their results showed that the use of antibiotics did not reduce pancreatic infection (12% antibiotics vs. 1990;174:331–336. in a necrotizing pancreatitis model defined three groups: one treated with saline solution, the second treated with Ciprofloxacin and the third treated with Imipenem/cilastatin six hours after the induction of AP. Thus, C-reactive protein can be useful in the identification of patients with high possibility to develop necrosis, in particular when the value is over 150 mg/dl, and subsequently define which patients are candidates to receive early antibiotics [27].Nordback et al, in a clinical trial observed advantages in the early use of Imipenem in patients with pancreatic necrosis when compared with the late use [28].The main arguments against the use of antibiotics are the increase of fungal infection, and the increase of bacteria resistance, with more Gram-positive infections [1].There are evidences in the literature that fungal infection has to be considered as an additional factor which influences the outcome of the patients [29].One paper analyzing data of 46 patients with infected pancreatic necrosis receiving antibiotics showed that 17 (37%) of them developed fungal infection. doi: 10.1007/s002689900206. [19]Ofloxacin + Metronidazole13620Placebo135415In 2004, the Ulm group in Germany published the best study regarding the use of antibiotics in AP [21]. in 1993 [16] conducted the first of them, which analyzed 74 patients with SAP in six medical centers in Italy. Surgery. JPN Guidelines for the management of acute pancreatitis: medical management of acute pancreatitis. Am J Surg. A prospective clinical study. C-reactive protein is a sensitive marker of pancreatic necrosis and it starts to increase significantly 48 hours after the onset of symptoms. Antibiotic therapy for prophylaxis against infection of pancreatic necrosis in acute pancreatitis. 2005;9:440–452. J Hepatobiliary Pancreat Surg. Isenmann's study is the more adequate about the use of antibiotics, and despite of a negative conclusion, it has shown that a group of patients deserved the early use of antibiotics.New studies are coming, hopefully with a greater number of patients and more solid conclusions. Discussion on prophylactic antibiotic treatment in patients with predicted severe pancreatitis: a placebo-controlled, double-blind trial. 0, p = 0.03). doi: 10.1016/j.gassur.2004.09.027. 1992;103:1902–1908. 9% placebo, p = n.s.) and mortality (5% antibiotics vs. The use of this cephalosporin is also questionable due to low pancreatic penetration.Delcenserie et al. In another clinical trial, Schwarz et al. 1998;87:200–203. 1997;21:143–148. The role of infection in acute pancreatitis. [PubMed] [CrossRef] [Google Scholar]Büchler MW, Malfertheiner P, Friess H, Isenmann R, Vanek E, Grimm H. Radiology. Antibiotic treatment improves survival in experimental acute necrotizing pancreatitis. J Gastroenterol Hepatol. 2005;54:iii1–iii9. [PubMed] [CrossRef] [Google Scholar]Balthazar EJ, Robinson DL, Megibow AJ, Ranson JH. J Am Coll Surg. Furthermore, 23 out of 30 patients in the control group received antibiotics in an average period of six days after the beginning of the treatment. Pederzoli et al. 1996;51:116–120. doi: 10.1016/S0140-6736(95)92280-6. Prophylatic antibiotics in treatment of severe acute alcoholic pancreatitis. 2002 [31]International Association of Pancreatology (Pancreatology)YesToouli et al. 2004 [33]Crit Care MedNoUK working party 2005 [34]United Kingdom (Gut)No consensusClancy et al. 2005;6:47–51. After this period, each patient must be evaluated individually to determine if the antibiotics will be suspended, modified or continued. 1976;143:209–219. [PubMed] [Google Scholar]Schwarz M, Isenmann R, Meyer H, Beger HG. [PubMed] [Google Scholar]Pederzoli P, Bassi C, Vesentini S, Campedelli A. The presence of pancreatic or peri-pancreatic necrosis and fluid collections define AP as locally severe [12,13].Some authors observed reduction in necrosis infection after the introduction of antibiotics in the treatment of severe forms of AP, when compared with historic controls without antibiotics. [PubMed] [Google Scholar]Schwarz M, Thomsen J, Meyer H, Buchler MW, Beger HG. 2001;136:592–596. Current principles of treatment in acute pancreatitis. The patients were randomized in two groups: one control with 33 patients and the treatment group with 41 patients that received Imipenem 3 × 500 mg/day intravenously (i.v.) during 14 days. doi: 10.1097/00000658-200110000-00016. The mechanisms of infection in AP are bacteria translocation, via lymphatic, via hematogenic, and reflux from duodenum and biliary tree as well [7].If the major problem in AP is infection of pancreatic necrosis, it makes sense to consider that the use of antibiotics in this situation could reduce the morbidity and mortality of these patients. Although there is no support in the literature, it is reasonable to assume that prophylactic antibiotic therapy should be considered only for patients with more than 30% pancreatic necrosis. Alternatively, Ciprofloxacin 2 × 400 mg/day i.v. associated with Metronidazole 3 × 500 mg for 14 days can also be considered as an option.Severe acute pancreatitis (SAP) as defined by the Atlanta criteria, is present in up to 25% of patients with acute pancreatitis (AP) [1], with mortality of 10%–20%.In these patients, AP develops in two phases: the first ten days are characterized by the systemic inflammatory response syndrome (SIRS), whereas in the end of the second week infection complications begin to appear [2].These complications due to infection are responsible for up to 80% of deaths in patients with AP. Gut. This time is determined by consensus meetings that recommend a period of 10 to 14 days [32,34,35,37,38]. Necrotizing pancreatitis – contemporary analysis of 99 consecutive cases. Gastroenterology. 52% in the Imipenem group (p = 0.044) and 70% in the Ciprofloxacin group (p < 0.001) [44].Büchler et al, in 1992, developed a table about the efficacy of several antibiotics, based on the pancreatic concentration of the antibiotic in patients undergone pancreatic surgery (Table 4) [45]. Surgical treatment for severe acute pancreatitis: extent and surgical control of necrosis determine outcome. They observed reduction in pancreatic sepsis in patients that received antibiotics (30.3% vs. Crit Care Med. World J Surg. However, they did not find reduction in mortality between the groups (12% vs. CT-guided aspiration of suspected pancreatic infection. 12.2%, p < 0.01). Bacterial contamination of pancreatic necrosis. Ann Chir Gynaecol. doi: 10.1007/s00534-005-1050-8. [PubMed] [CrossRef] [Google Scholar]Pederzoli P, Falconi M, Bassi C, Girelli R, Vesentini S, Martini N, Messori A. Randomized clinical trial of specific lactobacillus and fibre supplement to early enteral nutrition in patients with acute pancreatitis. This study showed that Pefloxacin was less effective than Imipenem in clinical practice. doi: 10.1159/000070079. 2004;5:161–164. J Antimicrob Chemother. [PubMed] [Google Scholar]de Souza L, Sampietre SN, Figueiredo S, Yria Y, Machado MC, Pinotti HW. [PubMed] [Google Scholar]Ho HS, Frey CF. compared two groups with 30 patients each, whereas the first one received Pefloxacin, and the second Imipenem. However, we should not wait for them to make a decision in the treatment of these patients.Based on available studies and in the guidelines opinions, we conclude that the best policy currently is the use of antibiotics in patients with SAP and more than 30% pancreatic necrosis. Severe acute pancreatitis. Chin J Dig Dis. 2006 [39]JPN Guidelines for the management of acute pancreatitisYesMoreover, the UK guidelines for the management of AP advocate that the risk of infected necrosis is very small when there is less than 30% necrosis [34]. Nevertheless, there was no difference in mortality rate between the groups. [PubMed] [Google Scholar]Gotzinger P, Sautner T, Kriwanek S, Beckerhinn P, Barlan M, Armbruster C, Wamser P, Fugger R. [PubMed] [CrossRef] [Google Scholar]Olah A, Belagyi T, Issekutz A, Gamal ME, Bengmark S. Furthermore, the mean time to open the protocol was 11.5 days in the treatment group and 5 days in the placebo group (Table 2). doi: 10.1053/j.gastro.2003.12.050. Acute pancreatitis: nonsurgical management. In spite of these results, a solid answer to the question about the use of antibiotics in AP was still missing [1,20] (Table 1).Clinical studies comparing the use of antibiotics with placeboAuthorsTreatmentPatients (n)Infected necrosis (%)Mortality (%)Pederzoli et al. London, UK: Martin Dunitz; 2003.

Jan 21, 2022 · Older guidelines recommended delayed oral intake. ... Antibiotics. Antibiotics are not indicated in acute Alcoholic Pancreatitis without necrosis; ... Acute pancreatitis occurs suddenly and usually goes away in a few days with treatment. It is often caused by gallstones. Common symptoms are severe pain in the upper abdomen, nausea, and vomiting.

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