DAFTAR PUSTAKA

1. World Health Organization. Global report on the epidemiology and burden of sepsis: current evidence, identifying gaps and future directions. Geneva: WHO; 2020. p.14–24.
2. Rudd KE, Johnson SC, Agesa KM, Shackelford KA, Tsoi D, Kievlan DR, *et al*. Global, regional, and national sepsis incidence and mortality, 1990-2017: analysis for the global burden of disease study. Lancet 2020;395:200–11 .
3. Nieman AE, Savelkoul PH, Beishuizen A, Henrich B, Lamik B, Mackenzie CR, *et al*. A prospective multicenter evaluation of direct molecular detection of blood stream infection from a clinical perspective. BMC Infect Dis. 2016; 16:314–22.
4. Bejta AA, Atelj A, Mentor Kurshumliu M, Dreshaj S, Barsic B. Presepsin values as markers of severity of sepsis. Int J Infect Dis. 2020;95:1–7.
5. Camm CF, Hayward G, Elias TC, Bowen JS, Hassanzadeh R, Fanshawe F, *et al*. Sepsis recognition tools in acute ambulatory care: associations with process of care and clinical outcomes in a service evaluation of an emergency multidisciplinary unit in oxfordshire. BMJ Open. 2018;8:1–8.
6. Oeschger T, McCloskey D, Kopparthy V, Singh A, Erickson D. Point of care technologies for sepsis diagnosis and treatment. Lab Chip. 2019;19(5):728–37.
7. Fuchs A, Tufa TB, Horner J, Hurissa Z, Nordmann T, Bosselmann M, *et al*. Clinical and microbiological characterization of sepsis and evaluation of sepsis scores. Plos One. 2021;16(3):1–21.
8. Koch C, Edinger F, Fischer T, Brenck F, Hecker A, Katzer C, *et al*. Comparison of qSOFA score, SOFA score, and SIRS criteria for the prediction of infection and mortality among surgical intermediate and intensive care patients. World J Emerg Surg. 2020;15(63):1–10.
9. Evers LM, Raaijmakers V, Buunk G, Brouns S, Romano L, Herpt TV, *et al*. Comparison of SIRS criteria and qSOFA score for identifying culture-positive sepsis in the emergency department: a prospective cross-sectional multicentre study. BMJ Open. 2021;11:1–8.

10. Vijayan AL, Vanimaya, Ravindran S, Saikant R, Lakshmi S, Kartik R, *et al*. Procalcitonin: a promising diagnostic marker for sepsis and antibiotic therapy. J Intensive Care. 2017;5:51–7.
11. Venugopalan DP, Pillai G, Krishnan S. Diagnostic value and prognostic use of presepsin versus procalcitonin in sepsis. Cureus. 2019;11(7):e51–60.
12. Opota O, Croxatto A, Prodhom G, Greub G. Blood culture-based diagnosis of bacteraemia: state of the art. Clin Microbiol Infect. 2015;21(4):313–22.
13. Sweeney TE, Liesenfeld O, May L. Diagnosis of bacterial sepsis: why are tests for bacteremia not sufficient? Exp Rev Mol Diagnos. 2019;19(11):959–62.
14. Seppala RU, Koskinen P, Leino A, Peuravuori H, Vahlberg T, Rintala EM. Early detection of severe sepsis in the emergency room: diagnostic value of plasma C-reactive protein, procalcitonin, and interleukin-6. Scand J Infect Dis. 2011;43:883–90.
15. Meisner M. Update on procalcitonin measurements. Ann Lab Med. 2014;34:263–73.
16. Behnes M, Bertsch T, Lepiorz D, Lang S, Trinkmann F, Brueckmann M, *et al*. Diagnostic and prognostic utility of soluble CD 14 subtype (presepsin) for severe sepsis and septic shock during the first week of intensive care treatment. Crit Care. 2014;18(507):1–13.
17. Tang BM, Eslick GD, Craig JC, McLean AS. Accuracy of procalcitonin for sepsis diagnosis in critically ill patients: systematic review and meta-analysis. Lancet Infect Dis. 2007;7:210–7.
18. Gyawali B, Ramakrishna K, Dhamoon AS. Sepsis: the evolution in definition, pathophysiology, and management. SAGE Open Med. 2019;7:1–13.
19. Bone RC, Balk RA, Cerra FB, Dellinger RP, Fein AM, Knaus WA, Schein RM, *et al*. Definition for sepsis and organ failure and guidelines for the use of innovative therapies in sepsis. Chest. 1992;101:1644–55.
20. Singer M, Deutschman CS, Seymour CW, Hari MS, Annane D, Bauer M, *et al*. The third international consensus definitions for sepsis and septic shock (sepsis-3). JAMA. 2016;315(8):801–10.

21. Menteri Kesehatan Republik Indonesia. Pedoman nasional pelayanan kedokteran tata laksana sepsis. Jakarta: Kementerian Kesehatan Republik Indonesia; 2017. p.5–6.
22. Hidayati, Arifin H, Raveinal. Kajian penggunaan antibiotik pada pasien sepsis dengan gangguan ginjal. J Sains Farm Klin. 2016;2(2):129–37.
23. Vendemiato AV, Nowakonski AV, Marson FA, Levy CE. Microbiological characteristics of sepsis in a university hospital. BMC Infect Dis. 2015;15:58–64.
24. Dolin HH, Papadimos TJ, Chen X, Pan ZK. Characterization of pathogenic sepsis etiologies and patient profiles: a novel approach to triage and treatment. Microbiol Insights. 2019;12:1–8.
25. Fathi M, Moghaddam NM, Ramezankhani A. A systematic review on risk factors associated with sepsis in patients admitted to intensive care units. Aust Crit Care. 2019;32(2):155–64.
26. Huang M, Cai S, Su J. The pathogenesis of sepsis and potential therapeutic targets. Int J Mol Sci. 2019;20(21):5376–407.
27. Ono S, Tsujimoto H, Hiraki S, Aosasa S. Mechanisms of sepsis-induced immunosuppression and immunological modification therapies for sepsis. Ann Gastroenterol Surg. 2018;2:351–8.
28. Elia RV, Harrison K, Oyston PC, Lukaszewski RA, Clark GC. Targeting the cytokine storm for therapeutic benefit. Clin Vaccine Immunol. 2013;20(3):319–27.
29. Ono S, Tsujimoto H, Matsumoto A, Ikuta SI, Kinoshita M, Mochizuki H. Modulation of human leukocyte antigen-DR on monocytes and CD16 on granulocytes in patients with septic shock using hemoperfusion with polymyxin B-immobilized fiber. Am J Surg. 2004;188(2):150–6.
30. Hiraki S, Ono S, Kinoshita M, Tsujimoto H, Seki S, Mochizuki H. Interleukin-18 restores immune suppression in patients with nonseptic surgery, but not with sepsis. Am J Surg. 2007;193(6):676–80.
31. Shen XF, Cao K, Jiang JP, Guan WX, Du JF. Neutrophil dysregulation during sepsis: an overview and update. J Cell Mol Med. 2017:20(10):1–11.

32. Preau S, Vodovar D, Jung B, Lancel S, Zafrani L, Flatres A, *et al*. Energetic dysfunction in sepsis: a narrative review. Ann Intensive Care. 2021;11:104–25.
33. Wang Y, Chakraborty M, McLean A. The role of mitochondrial dysfunction in sepsis: what is new? Australia: Springer Nature; 2019. p.537–45.
34. Galley HF. Oxidative stress and mitochondrial dysfunction in sepsis. BJA. 2011;107(1):57–64.
35. Endo S, Suzuki Y, Takahashi G, Shozushima T, Ishikura H, Murai A, *et al*. Usefulness of presepsin in the diagnosis of sepsis in a multicenter prospective study. J Infect Chemother. 2012;18(6):891–7.
36. Evans T. Diagnosis and management of sepsis. Clin Med. 2018;18(2):146–9.
37. Lelubre C, Vincent JL. Mechanisms and treatment of organ failure in sepsis. Nat Rev Nephrol. 2018;14(7):417–27.
38. Marik PE, Taeb AM. SIRS, qSOFA, and new sepsis definition. J Thorac Dis. 2017;9(4):943–5.
39. Evans L, Rhodes A, Alhazzani W, Antonelli M, Coopersmith CM, French C, *et al*. Surviving sepsis campaign: international guidelines for management of sepsis and septic shock 2021. Intensive Care Med. 2021;47:1181–247.
40. Mancini N, Carletti S, Ghidoli N, Cichero P, Burioni R, Clementi M. The era of molecular and other non-culture-based methods in diagnosis of sepsis. Clin Microbiol Rev. 2010;23(1):235–51.
41. Cappuccino JG, Sherman N. Microbiology: a laboratory manual. United States of America: Pearson; 2014. p.473–7.
42. Limongi D, Agostini CD, Ciotti M. New sepsis biomarkers. Asian Pac J Trop Biomed. 2016;6(6):1–4.
43. Ramana KV, Pinnelli VB, Kandi S, Asha G, Jayashankar CA, Bhanuprakash, *et al*. Presepsin: a novel and potential diagnostic biomarker for sepsis. Am J Med Biologic Res. 2014;2(4):97–100.
44. LSI Medience Corporation. The sepsis marker pathfast presepsin. Japan: Mitsubishi Chemical Europe; 2017. p.1–6.
45. Memara YM, Baghia HB. Presepsin: a promising biomarker for the detection of bacterial infections. Biomed Pharmacother. 2019;111:649–56.

46. Raveendran AV, Kumar A, Gangadharan S. Biomarkers and newer laboratory investigations in the diagnosis of sepsis. J R Coll Physicians Edinb. 2019;49:207–16.
47. Zuccaro V, Sacchi P, Cima S, Columpsi P, Toppino S, Paolucci S, *et al*. The role of presepsin (sCD14-ST) as an indirect marker of microbial translocation and immune activation in HIV and HIV/HCV coinfected patients. J Infect Chemother. 2014;11(5):234–8.
48. Nagata T, Yasuda Y, Ando M, Abe T, Katsuno T, Kato S, *et al*. Clinical impact of kidney function on presepsin levels. Plos One. 2015;10(6):1–10.
49. Madenci OC, Yakupog S, Yucel NB, Akbaba D, Kaptanagasi AO. Evaluation of soluble CD14 subtype (presepsin) in burn sepsis. Burns. 2014;40:664–9.
50. Kweon OJ, Choi JH, Park SK, Park AJ. Usefulness of presepsin (sCD14 subtype) measurements as a newcmarker for the diagnosis and prediction of disease severity of sepsis in the korean population. J Crit Care. 2014;29:965–70.
51. Liu B, Chen YX, Yin Q, Zhao YZ, Li CS. Diagnostic value and prognostic evaluation of presepsin for sepsis in an emergency department. Crit Care. 2013;17(5):R244–56.
52. Nakamura Y, Ishikura H, Nishida T, Kawano Y, Yuge R, Ichiki R, *et al*. Usefulness of presepsin in the diagnosis of sepsis in patients with or without acute kidney injury. BMC Anesthesiol. 2014;14:88–94.
53. Romualdo LG, Torrella PE, Gonzalez MV, Sanchez RJ, Holgado AH, Freire AO, *et al*. Diagnostic accuracy of presepsin (soluble CD14 subtype) for prediction of bacteremia in patients with systemic inflammatory response syndrome in the emergency department. Clin Biochem. 2014;47(7):505–8.
54. Sargentini V, Ceccarelli G, Alessandro MD, Collepardo D, Morelli A, Egidio AD, *et al*. Presepsin as a potential marker for bacterial infection relapse in critical care patients: a preliminary study. Clin Chem Lab Med. 2015;53(4):567–73.

55. Shozushima T, Takahashi G, Matsumoto N, Kojika M, Okamura Y, Endo S. Usefulness of presepsin (sCD14-ST) measurements as a marker for the diagnosis and severity of sepsis that satisfied diagnostic criteria of systemic inflammatory response syndrome. J Infect Chemother. 2011;17:764–9.
56. Ulla M, Pizzolato E, Lucchiari M, Loiacono M, Soardo F, Forno D, *et al*. Diagnostic and prognostic value of presepsin in the management of sepsis in the emergency department: a multicenter prospective study. Crit Care. 2013;17:R168–75.
57. Vodnik T, Kaljevic G, Tadic T, Singh NM. Presepsin (sCD14-ST) in preoperative diagnosis of abdominal sepsis. Clin Chem Lab Med. 2013;51(10):2053–62.
58. Galliera E, Massaccesi L, Vecchi ED, Banfi G, Romanelli MM. Clinical application of presepsin as diagnostic biomarker of infection: overview and updates. Clin Chem Lab Med. 2019;58(1):11–7.
59. Miyoshi M, Inoue Y, Nishioka M, Ikegame A, Nakao T, Kishi S, *et al*. Clinical evaluation of presepsin considering renal function. Plos One. 2019;14(9):1–9.
60. Nakamura Y, Hoshino K, Kiyomi F, Kawano Y, Mizunuma M, Tanaka J, *et al*. Comparison of accuracy of presepsin and procalcitonin concentrations in diagnosing sepsis in patients with and without acute kidney injury. Clin Chim Acta. 2019;490:200–6.
61. Rowland T, Hilliard H, Barlow G. Procalcitonin: potential role in diagnosis and management of sepsis. Adv Clin Chem. 2015;68:71–86.
62. Schuetz P. Clinical guide to use of procalcitonin for diagnosis and PCT-guided antibiotic therapy. USA: Pioneering Diagnostics; 2017. p.1–26.
63. Shiferaw B, Bekele E, Kumar K, Boutin A, Frieri M. The role of procalcitonin as a biomarker in sepsis. J Infect Dis Epidemiol. 2016;2(1):6–9.
64. Linscheid P, Seboek D, Schaer DJ, Zulewski H, Keller U, Muller B. Expression and secretion of procalcitonin and calcitonin gene-related peptide by adherent monocytes and by macrophage-activated adipocytes. Crit Care Med. 2004;32(8):1715–21.

65. Meynaar IA, Droog W, Batstra M, Vreede R, Herbrink P. In critically ill patients, serum procalcitonin is more useful in differentiating between sepsis and SIRS than CRP, Il-6, or LBP. Crit Care Res Pract. 2011;1:1–7.
66. Dorizzi RM, Polati E, Sette P, Ferrari A, Rizzotti P, Luzzani A. Procalcitonin in the diagnosis of inflammation in intensive care units. Clin Biochem. 2006;39:1138–43.
67. Gaini S, Koldkjaer OG, Pedersen C, Pedersen SS. Procalcitonin, lipopolysaccharide-binding protein, interleukin-6 and c-reactive protein in community-acquired infections and sepsis: a prospective study. Crit Care. 2006;10(2):R53–62.
68. Hsu KH, Chan MC, Wang JM, Lin LY, Wu CL. Comparison of Fcγ receptor expression on neutrophils with procalcitonin for the diagnosis of sepsis in critically ill patients. Respirology. 2011;16:152–60.
69. Ngern AS, Leelasupasri S, Chulavatnatol S, Pummangura C, Bunupuradah P, Montakantikul P. Prognostic value of serum procalcitonin level for the diagnosis of bacterial infections in critically-ill patients. Infect Chemother. 2019;51(3):263–73.
70. Alvarez MJ, Valdecasas SG, Pablo RD, García MS, Coca C, Groeneveld TW. Diagnostic efficacy and prognostic value of serum procalcitonin concentration in patients with suspected sepsis. J Intensive Care Med. 2009;24(1):63–71.
71. Tsalik EL, Jaggers B, Glickman SW, Langley RJ, Velkinburgh JC, Park LP. Discriminative value of inflammatory biomarkers for suspected sepsis. J Emerg Med. 2012;43(1):97–106.
72. Tsangaris I, Plachouras D, Kavatha D, Gourgoulis GM, Tsantes A, Kopterides P, *et al*. Diagnostic and prognostic value of procalcitonin among febrile critically ill patients with prolonged ICU stay. BMC Infect Dis. 2009;9:213–20.
73. Sitar ME, Ipek BO, Karadeniz A. Procalcitonin in the diagnosis of sepsis and correlations with upcoming novel diagnostic markers. Int J Med Biochem. 2019;2(3):132–40.

74. Wang D, Tao X, Guo W, Liu H, Cheng S, Wang J. The diagnostic ability of procalcitonin to differentiate gram-negative bacteria from gram-positive bacteria and fungal bloodstream infections in critically ill patients. Eur J Inflamm. 2019;17:1–6.
75. Dahlan MS. Besar sampel dan cara pengambilan sampel ddam penelitian kedokteran dan kesehatan. Jakarta: Penerbit Salemba Medika; 2010. p.81–90.
76. Lemeshow S, Hosmer DW, Klar J, Lwanga SK. Adequacy of sample size in health studies. New York: WHO; 1990. p.1–8.
77. Klouche K, Cristol JP, Devin J, Gilles V, Kuster N, Larcher R, *et al*. Diagnostic and prognostic value of soluble CD14 subtype (presepsin) for sepsis and community-acquired pneumonia in ICU patients. Ann Intensive Care. 2016;6(59):1–11.
78. Clifford KM, Dyboarman EA, Haase KK, Maxvill KH, Pass S, Alvarez CA. Challenges with diagnosing and managing sepsis in older adults. Expert Rev Anti Infect Ther. 2016;14(2):231–41.
79. Sakr Y, Elia C, Mascia L, Barberis B, Cardellino S, Livigni S, *et al*. The influence of gender on the epidemiology of and outcome from severe sepsis. Crit Care. 2013;17(R50):1–9.
80. Angstwurm MW, Gaertner R, Schopohl J. Outcome in elderly patients with severe infection is influenced by sex hormones but not gender. Crit Care Med. 2005;33(12):2786–93.
81. Giavarina D, Carta M. Determination of reference interval for presepsin, an early marker for sepsis. Biochemia Medica. 2015;25(1):64 –8.
82. Carpio R, Zapata J, Spanuth E, Hess G. Utility of presepsin (sCD14-ST) as a diagnostic and prognostic marker of sepsis in the emergency department. Clin Chim Acta. 2015;1(1):1–29.
83. Arif SK, Wahyuddin AM, Musba AM. Akurasi diagnostik prokalsitonin sebagai penanda serologis untuk membedakan antara sepsis bakterial dan sepsis viral. J Anesthesiol Indones. 2017;9(3):157–67.
84. Sinha M, Desai S, Mantri S, Kulkami A. Procalcitonin as an adjunctive biomarker in sepsis. Indian J Anaesth. 2011;55:266–70.

85. Karakike E, Kyriazopoulou E, Tsangaris I, Routsi C, Vincent JL, Giamarellos EJ. The early change of SOFA score as a prognostic marker of 28-day sepsis mortality: analysis through a derivation and a validation cohort. Crit Care. 2019;23(387):1–8.
86. Novita C, Maat S, Tambunan BA. Correlation of procalcitonin level with sepsis degrees based on SOFA score. Indones J Clin Pathol Med Lab. 2019;25(3):312–7.
87. Baig MA, Sheikh S, Hussain E, Bakhtawar S, Khan MS, Mujtaba S, *et al*. Comparison of qSOFA and SOFA score for predicting mortality in severe sepsis and septic shock patients in the emergency department of a low middle income country. Turk J Emerg Med. 2018;18:148–51.
88. Lambden S, Laterre PF, Levy MM, Francois B. The SOFA score: development, utility and challenges of accurate assessment in clinical trials. Crit Care. 2019;23(374):1–9.
89. Liu J, Xie H, Ye Z, Li F, Wang L. Rates, predictors, and mortality of sepsis associated acute kidney injury: a systematic review and meta-analysis. BMC Nephrol. 2020;21(318):1–16.
90. Leelahavanichkul A, Huang Y, Hu X, Zhou H, Tsuji T, Chen R, *et al*. Chronic kidney disease worsens sepsis and sepsis-induced acute kidney injury by releasing high mobility group box protein-1. Kidney Int. 2011;80:1198–211.
91. Samosir NE, Loesnihari R, Aman AK. Correlation between time to positivity blood culture and procalcitonin in bacteremia patients. Indones J Clin Pathol Med Lab. 2019;25(3):283–9.
92. Hendrianingtyas, Banundari RH, Indranila KS, Budiwiyono I. Serum procalcitonin, CRP and presepsin in SIRS. Indones J Clin Pathol Med Lab. 2014;20(3):183–91.
93. Yang L, Lin Y, Wang J, Song J, Wei B, Zhang X, *et al*. Comparison of clinical characteristics and outcomes between positive and negative blood culture septic patients: a retrospective cohort study. Infect Drug Resist. 2021;14:4191–205.

94. Sigakis MJ, Jewell E, Maile MD, Cinti SK, Bateman BT, Engoren M. Culture negative and culture positive sepsis: a comparison of characteristics and outcomes. Anesth Analg. 2019;129(5):1300–9.
95. Oliver JD. The viable but nonculturable state in bacteria. J Microbiol. 2005;43(S):93–100.
96. Ramamurthy T, Ghosh A, Pazhani GP, Shinoda S. Current perspectives on viable but non-culturable (VBNC) pathogenic bacteria. Frontiers Public Health. 2014;2(103):9.
97. Phua J, Ngemg WJ, See KC, Tay CK, Kiong T, Lim HF, *et al*. Characteristics and outcomes of culture-negative versus culture-positive severe sepsis. Crit Care. 2013;17(202):1–12.
98. Rannikko J, Syrjanen J, Seiskari T, Aittoniemi J, Huttunen R. Sepsis-related mortality in 497 cases with blood culture-positive sepsis in an emergency department. Int J Infect Dis. 2017;58:52–7.
99. Abe R, Oda S, Sadahiro T, Nakamura M, Hirayama Y, Tateishi Y, *et al*. Gram-negative bacteremia induces greater magnitude of inflammatory response than gram-positive bacteremia. Crit Care. 2010;14(27):1–7.
100. Ramachandran G. Gram-positive and gram-negative bacterial toxins in sepsis. Virulence. 2014;5(1):213–8.
101. Effendi B, Pitoyo CW, Sinto R, Suwarto S. Procalcitonin prognostic value in predicting mortality among adult patients with sepsis due to gram-negative bacteria. Med J Indones. 2022;31:50–5.
102. Behzadi P, Behzadi E, Yazdanbod H, Aghapour R, Cheshmeh MA, Omran DS. A survey on urinary tract infections associated with the three most common uropathogenic bacteria. J Clin Med. 2010;5(2):111–5.
103. Ristow LC, Welch RA. Hemolysin of uropathogenic escherichia coli: a cloak or a dagger? Biochim Biophys Acta. 2016;1858(3):538–45.
104. Welch RA. The escherichia coli hemolysin. Ecosal Plus. 2005;1(2):1–7.
105. Park J, Yoon JH, Ki HK, Ko JH, Moon HW. Performance of presepsin and procalcitonin predicting culture-proven bacterial infection and 28-day mortality: a cross sectional study. Front Med. 2022;9(1):1–9.

106. Rabensteiner J, Skvarc M, Hoenigl M, Osredkar J, Prueller F, Reichsoellner M, *et al*. Diagnostic and prognostic potential of presepsin in emergency department patients presenting with systemic inflammatory response syndrome. J Infect. 2014;69:627–32.
107. Claessens YE, Trabattoni E, Grabar S, Quinquis L, Sahakian GD, Anselmo M, et al. Plasmatic presepsin (sCD14-ST) concentrations in acute pyelonephritis in adult patients. Clin Chim Acta. 2017;464:182–8.
108. Arakawa K, Saeki A, Ide R, Matsushita Y. Presepsin cut-off value for diagnosis of sepsis in patients with renal dysfunction. Plos One. 2022;17(9):1–13.
109. Romualdo LG, Torrella PE, Acebes SR, Oton MD, Sanchez RJ, Holgado AH, *et al*. Diagnostic accuracy of presepsin (sCD14-ST) as a diagnostic marker of infection and sepsis in the emergency department. Clin Chim Acta. 2017;464:6–11.
110. Tsujimoto K, Hata A, Fujita M, Hatachi S, Yagita M. Presepsin and procalcitonin as biomarkers of systemic bacterial infection in patients with rheumatoid arthritis. Int J Rheum Dis. 2018;21(7):1406–13.
111. Demirdal T, Sen P, Nemli SA. Diagnostic value of procalcitonin in predicting bacteremia in intensive care unit. Indian J Crit Care Med. 2018;22(2):24–30.
112. Ljungstrom L, Pernestig AK, Jacobsson G, Andersson R, Usener B, Tilevik D. Diagnostic accuracy of procalcitonin, neutrophil-lymphocyte count ratio, C-reactive protein, and lactate in patients with suspected bacterial sepsis. Plos One. 2017;12(7):1–17.
113. Kondo Y, Umemura Y, Hayashida K, Hara Y, Aihara M, Yamakawa K. Diagnostic value of procalcitonin and presepsin for sepsis in critically ill adult patients: a systematic review and meta-analysis. J Intensive Care. 2019;7:22–34.
114. Sayed DE, Grotts J, Golgert WA, Sugar AM. Sensitivity and specificity of procalcitonin in predicting bacterial infections in patients with renal impairment. Open Forum Infect Dis. 2014; 1(2):1–7.

115. Armada AE, Conesa RE, Torre AG, Prados MV. Usefulness of several biomarkers in the management of septic patients: c-reactive protein, procalcitonin, presepsin and mid-regional pro-adrenomedullin. Clin Chem Lab Med. 2016;54(1):163–8.
116. Balci C, Sungurtekin H, Gurses E, Sungurtekin U, Kaptanoglu B. Usefulness of procalcitonin for diagnosis of sepsis in the intensive care unit. Crit Care. 2003;7(1):85–90.
117. Imai Y, Taniguchi K, Iida R, Nitta M, Uchiyma K, Takasu A. Diagnostic accuracy of presepsin in predicting bacteraemia in elderly patients admitted to the emergency department: prospective study in japan. BMJ Open. 2019;9(12):1–4.
118. Sabry R, Maghraby HM, Allah AM. Presepsin and procalcitonin as potential biomarkers for early diagnosis and prognosis of sepsis in critically ill patients. Open J Med Microbiol. 2021;11:267–81.