

## DAFTAR PUSTAKA

- Adler, M., Anjum, M., Andersson, D. and Sandegren, L. (2012). Influence of acquired  $\beta$ -lactamases on the evolution of spontaneous carbapenem resistance in *Escherichia coli*. *Journal of Antimicrobial Chemotherapy*, 68(1), pp.51-59.
- Akova, M., Bonfiglio, G. & Livermore, D. M. (1991). Susceptibility to  $\beta$ -lactam antibiotics of mutant strains of *Xanthomonas maltophilia* with high- and low-level constitutive expression of L1 and L2  $\beta$ -lactamases. *Journal of Medical Microbiology* 35, 208–13.
- Alborn, W., Allen, NE. and Preston, DA. (1991). Daptomycin disrupts membrane potential in growing *Staphylococcus aureus*. *Antimicrob Agents Chemother*; 35(11): pp. 2282-7.
- Ali, AE., Masoud, MS. and Nasr, NM. (2006). Chemistry, classification, pharmacokinetics, clinical uses and analysis of beta lactam antibiotics: A review. *J Chem Pharm Res*; 6(11): pp. 28-58.
- Arnold, R., Kristie-Johnson, J., Morgan, DJ., Phillips, M., Sharma, S. and Thom, KA. (2011). Emergence of *Klebsiella pneumoniae* Carbapenemase (KPC)-Producing Bacteria. *South Med J*; 104(1): pp. 40-45.
- Bassetti, M., Giacobbe, DR., Ginocchio, F., Mikulska, M. and Taramasso, L. (2011). Will new antimicrobials overcome resistance among Gram-negatives?. *Expert Rev Anti Infect Ther*; 9(10): pp. 909-922.
- Beers, MH. and Fletcher, AJ. (2003). The Merck manual of medical information, 2<sup>nd</sup> ed, Whitehouse station, NJ.
- Ben-Ami, R., Carmeli, Y., Chmelnitsky, I., Giladi, M., Leavitt, A., Navon-Venezia, S., Schwaber, MJ. and Schwartz, D. (2006). Influx of extended-spectrum beta-lactamase-producing enterobacteriaceae into the hospital. *Clin Infect Dis*; 42(7): pp. 925-934.
- Bergen PJ, Landersdorfer CB, Zhang J, et al. Pharmacokinetics and pharmacodynamics of “old” polymyxins: what is new? *Diagn Microbiol Infect Dis*. 2012;74(3):213-223. doi: 10.1016/j.diagmicrobio.2012.07.010.

- Betts, M. and Edwards, J. (2000). Carbapenems: the pinnacle of the  $\beta$ -lactam antibiotics or room for improvement?. *J Antimicrob Chemother*; 45(1): pp. 1-4.
- Bonomo, RA., Kaye, KS., Neuner, EA. And Van-Duin, D. (2013). Carbapenem-resistant enterobacteriaceae: a review of treatment and outcomes. *Diagn Microbiol Infect Dis*; 75(2): pp. 115-20.
- Breukink, E., Orlachs, N. and Van-Dam, V. (2009). Specific labeling of peptidoglycan precursors as a tool for bacterial cell wall studies. *Chembio chem*; 10(4): pp. 617-624.
- Buehrle, D.J., Shields, R.K., Clarke, L.G., Potoski, B.A., Clancy, C.J., Nguyen, M.H. (2017) 'Carbapenem-Resistant *Pseudomonas Aeruginosa* Bacteremia: Risk Factors for Mortality and Microbiologic Treatment Failure', 61(1), pp. 1-7
- Suwantarat, N. and Carroll, K. (2016). Epidemiology and molecular characterization of multidrug-resistant Gram-negative bacteria in Southeast Asia. *Antimicrobial Resistance & Infection Control*, 5(1).
- Chess, B & Talaro, KP. (2008). *Foundation in Microbiology*, 8<sup>th</sup> ed ,The McGraw-Hill Companies Inc, New york; pp. 100-111.
- Cunha BA. Optimal therapy for multidrug-resistant *Acinetobacter baumannii*. *Emerg Infect Dis*. 2010 Jan. 16(1):170; author reply 170-1.
- Cunha BA. Pharmacokinetic considerations regarding tigecycline for multidrug-resistant (MDR) *Klebsiella pneumoniae* or MDR *Acinetobacter baumannii* urosepsis. *J Clin Microbiol* 2009; 47:1613
- Dijkshoorn L, Nemec A, Seifert H: An increasing threat in hospitals: multidrug-resistant *Acinetobacter baumannii*. *Nat. Rev. Microbiol*. 5(12), 939–951 (2007).
- Dipiro, JT. and Talbert, RL. (2005). *Pharmacotherapy: A pathophysiologic approach*, 6<sup>th</sup> ed, The Mc. Graw Hill Compan; pp. 1891-1839.

- Eliopoulos, GM. and Moellering, RC. (1989). The carbapenems: new broad spectrum beta-lactam antibiotics. *J Antimicrob Chemother*; pp. 1-7.
- Endimiani, A., Bonomo, RA., Taracila, MA. and Papp-Wallace, K. (2011). Carbapenems: past, present, and future. *Antimicrob Agents Chemother*; 55(11): pp. 4943-4960.
- Fair, R. and Tor, Y. (2014). Antibiotics and bacterial resistance resistance in the 21<sup>st</sup> century. *Perspect Medicin Chem*; 6: pp.25-64.
- Falagas, ME., Matthaiou, DK. and Rafailidis, PI. (2010). Resistance to polymyxins: mechanisms, frequency and treatment options. *Drug Resist Updat*; 13(4-5): pp. 132-138.
- Famiglietti, A., Nastro, M. and Rodriguez, CH. (2018) Carbapenemases in *Acinetobacter baumannii*. review of their dissemination in Latin America. *Rev Argent Microbiol* ; 17: pp 30178-5.
- Fukasawa, M., Inoue, T., Kato, M., Matsumura, H. and Sunagawa, M. (1990). A novel carbapenem antibiotic, SM-7338 structure-activity relationships. *J Antibiot*; 43(5): pp. 519-532.
- Gastmeier, P., and Meyer, E., Schroeren-Boersch, B. and Schwab, F. (2010). Dramatic increase of third-generation cephalosporin-resistant *E. coli* in German intensive care units: secular trends in antibiotic drug use and bacterial resistance, 2001 to 2008. *Crit Care*; 14(3): pp. 1-7.
- Gazin, M., Goossens, H., Kumar, SM. and Paasch, F. (2012). Current Trends in Culture-Based and Molecular Detection of Extended Spectrum  $\beta$  Lactamase harboring and carbapenem resistant Enterobacteriaceae. *J Clin Microbio*; 50(4): pp .1140-1146.
- Goering and Richard, V. (1998). Mims' Medical Microbiology, 2<sup>nd</sup> ed, Mosby, London, pp. 25-27.
- Gorbach, SL. (1989). The role of cephalosporins in surgical prophylaxis. *J Antimicrob Chemother*; 23: pp. 61-70.

- Govil, D., Prakash, O., Gupta, S., Malhotra, A., Kakar, P., Arora, D., Das, S. and Govil, P. (2009). Colistin and polymyxin B: A re-emergence. *Indian Journal of Critical Care Medicine*, 13(2), pp.49-53.
- Grisold, AJ., Hoenigl, M., Krause, R., Leitner, E., Posch, J., Salzer, HJ., Valentin, T., Wuerstl, B. and Zarfel, G. (2012). Nosocomial Outbreak of Klebsiella pneumonia carbapenemase-producing Klebsiella oxytoca in Austria. *Antimicrob Agents Chemother*; 56(4): pp. 2158-2161.
- Gutierrez-Gutierrez, B., Machuca, I., Pascual, A. and Rodriguez-Bano, J. (2018). Treatment of infections caused by Extended-Spectrum-Beta-Lactamase, Ampc, and Carbapenemase-Producing Enterobacteriaceae. *Clin Microbiol Rev*; 31(2).
- Hashizume, T., Ishino, F., Matsushashi, M., Nakagawa, J. and Tamaki, S. (1984). Studies on the mechanism of action of imipenem (N-formimidoylthienamycin) in vitro: binding to the penicillin-binding proteins (PBPs) in Escherichia coli and Pseudomonas aeruginosa, and inhibition of enzyme activities due to the PBPs in E. coli. *J Antibiot*; 37(4): pp. 394-400.
- Hawkey, PM. and Livermore, DM. (2012). ‘Carbapenem antibiotics for serious infections. *BMJ*; 344: pp. 3236.
- Hayes, CS. and Williamson, H. (2001). Management of group A beta hemolytic streptococcal pharyngitis. *Am Fam Physician*; 63(8): pp. 1557-1564.
- Higgins, P., Dammhyan, C., Hackel, M. and Seifert, H. (2009). Global spread of carbapenem-resistant Acinetobacter baumannii. *Journal of Antimicrobial Chemotherapy*, 65(2).
- Hirsch EB, Tam VH. Detection and treatment options for Klebsiella pneumoniae carbapenemases (KPCs): an emerging cause of multidrug-resistant infection. *J Antimicrob Chemother* 2010; 65:1119–25.
- Jones, RN. and Rhomberg, PR. (2009). Summary trends for the Meropenem Yearly Susceptibility Test Information Collection Program: A 10-year experience in the United States. *Diagn Microbiol Infect Dis*; 65(4): pp. 414-426.

- Karageorgopoulos DE, Miriagou V, Tzouveleki LS et al. Emergence of resistance to fosfomycin used as adjunct therapy in KPC *Klebsiella pneumoniae* bacteraemia: report of three cases. *J Antimicrob Chemother* 2012; 67:2777–9.
- Kumarasamy KK, Toleman MA, Walsh TR et al. (August 2010). "Emergence of a new antibiotic resistance mechanism in India, Pakistan, and the UK: a molecular, biological, and epidemiological study". *Lancet Infect Dis* 10(9): 597–602.
- Li, J, Turnidge, J, Milne, R, Nation, RL, and Coulthard, K. In vitro pharmacodynamic properties of colistin and colistin methanesulfonate against *Pseudomonas aeruginosa* isolates from patients with cystic fibrosis. *Antimicrob Agents Chemother*. 2001; 45: 781–785
- Lopez-Camacho, E., Gomez-Gil, R., Tobes, R., Manrique, M., Lorenzo, M., Galvan, B., Salvarelli, E., Moatassim, Y., Salanueva, I., Pareja, E., Codoner, F., Alvarez-Tejado, M., Garcillan-Barcia, M., De la Cruz, F. and Mingorance, J. (2013). Genomic analysis of the emergence and evolution of multidrug resistance during a *Klebsiella pneumoniae* outbreak including carbapenem and colistin resistance. *Journal of Antimicrobial Chemotherapy*, 69(3), pp.632-636.
- Meletis, G. (2016). Carbapenem resistance : overview of the problem and future perspectives. *Ther Adv Infect Dis*; 3(1): pp. 15-21.
- National Nosocomial Infections Surveillance (NNIS) System Report, data summary from January 1992 through June 2004, issued October 2004. *Am J Infect Control* 2004;32:470-85.
- Nordmann, P., Pitout, JD. and Poirel, L. (2007). Carbapenemases : molecular diversity and clinical consequences. *Future Microbiol*; 2(5): pp. 501-12.
- Nurhayati, D. (2013). Prevalensi *Klebsiella pneumoniae* Resistensi Karbapenem dan Luaran Klinisnya di RSUP.Dr. Hasan Sadikin Bandung.
- Rasmussen B. A., Bush K. (1997) Carbapenem-hydrolyzing  $\beta$ -lactamases. *Antimicrob. Agents Chemother*. 41:223–232.
- Rasmussen, JR., Strominger, JL., Waxman, DJ. and Yocum, RR. (1979). Mechanism of penicillin action: penicillin and substrate bind covalently to the same active site

- serine in two bacterial D-alanine carboxypeptidases. *Proc Natl Acad Sci U.S.A*; 76(6): pp. 2730-2734.
- Rosdahl, VT., Westh, H. and Zinn, CS. (2004). An international multicenter study of antimicrobial consumption and resistance in *Staphylococcus aureus* isolates from 15 hospitals in 14 countries. *Microb Drug Resist*; 10(2): pp. 169-76.
- Scholar, E. (2007). Carbapenems. *X-Pharm*; pp. 1-3.
- Sirijatuphat R, Thamlikitkul V. Colistin versus colistin plus fosfomycin for treatment of carbapenem-resistant *Acinetobacter baumannii* infections: A preliminary study. *Antimicrob Agents Chemother*. 2014.
- SMI P 8: Laboratory detection and reporting of bacteria with carbapenem-hydrolysing beta-lactamases (carbapenemases) (2014).
- Soleha, TU. (2015). Uji kepekaan terhadap antibiotik. *Juke Unila*; 5(9); pp. 119-123.
- Stockholm. (2013). Rates of carbapenem-resistant infections continue to increase in Europe. *Eur Cent Dis Prev Control*; pp. 1-3
- Strominger, JL. and Tipper, DJ. (1965). Mechanism of action of penicillins: a proposal based on their structural to acyl-D-alanyl-D-alanine. *Proc Natl Acad Sci USA*; 54(4): pp. 1133-1141.
- Tängdén T. Combination anti-biotic therapy for multidrug resistant Gram-negative bacteria. *Ups J Med Sci*. 2014 May;119:149-53.
- Tsao, L., Hsin C., Liu H., Chuang, H. (2018) 'ScienceDirect Risk Factors for healthcare-associated infection caused by carbapenem-resistant *Pseudomonas aeruginosa*', *Journal of Microbiology, Immunology and Infection Elsevier Taiwan LLC*, 51(3), pp. 359-366
- Tumah, H. (2005). Fourth-generation cephalosporins: in vitro activity against nosocomial gram-negative bacilli compared with beta-lactam antibiotics and ciprofloxacin. *Chemotherapy*; 51(2-3): pp. 80-85.
- Utami, ER. (2011). Antibiotika, resistensi, dan rasionalitas terapi. *J Biol*; 1(4): pp. 4.

- van Duin, D., Kaye, K., Neuner, E. and, R. (2013). Carbapenem-resistant Enterobacteriaceae: a review of treatment and outcomes. *Diagnostic Microbiology and Infectious Disease*, 75(2), pp.115-120.
- Walkty, A, DeCorby, M, Nichol, K, Karlowsky, JA, Hoban, DJ, and Zhanel, GG. In vitro activity of colistin (polymyxin E) against 3,480 isolates of gram-negative bacilli obtained from patients in Canadian hospitals in the CANWARD study, 2007–2008. *Antimicrob Agents Chemother*. 2009; 53: 4924–4926.
- Waluyo, L. (2008). Teknik Metode Dasar Dalam Mikrobiologi. *UMM Press*; pp. 222, 258.
- Watanabe M., Iyobe S., Inoue M., Mitsushashi S. (1991) Transferable imipenem resistance in *Pseudomonas aeruginosa*. *Antimicrob. Agents Chemother*. **35**:147–151.
- Woodford N, Turton JF, Livermore DM. Multiresistant Gram-negative bacteria: the role of high-risk clones in the dissemination of antibiotic resistance, *FEMS Microbiol Rev*, 2011, vol. 35(pg. 736-55)
- World Health Organization. (2017). Guidelines for the prevention and control of carbapenem-resistant Enterobacteriaceae, *Acinetobacter baumannii* and *Pseudomonas aeruginosa* in health care facilities.
- World Health Organization . (2018). Antimicrobial resistance: global report on surveillance 2014.
- Wu, T. (2011) ‘Carbapenem-resistant or Multidrug-resistant *Acinetobacter Baumannii* - a Clinician ’s Perspective’, *The Hong Kong Medical Diary*, 16(4), pp. 6-9.
- Xia J., Zhang, D., Xu, Y., Gong, M., Zhou, Y., Fang, X. (2014) ‘ A retrospective analysis of carbapenem-resistant *Acinetobacter baumannii* - mediated nosocomial pneumonia and the in vitro therapeutic benefit of cefoperazone / sulbactam’, *International Journal of Infectious Diseases*. International Society for Infectious Diseases, 23, pp. 90-93.
- Zheng, Y., Wan, Y., Zou, L. et al. (2013) ‘American Journal of Infection Control Risk factors and mortality of patients with nosocomial carbapenem-resistant

Acinetobacter bambini pneumonia', American Journal of Infection Control. Elsevier Inc, 41(7), pp. e59-e63.