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Title	Drug resistant *Staphylococcus aureus* in clinical samples at Kampala International University-teaching hospital, Bushenyi District, Uganda.
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Abstract	**Kontext (Background):** Meticilín-rezistentný *Staphylococcus aureus* (MRSA) je významný nozokomiálny (nemocničný) patogén, ktorý často spôsobuje ťažko liečiteľné infekcie. Je to dané skutočnosťou, že tento patogén býva zvyčajne rezistentný aj voči iným bežne používaným antibiotikám. Výskyt liekovo rezistentného MRSA u pacientov bol už predtým dokumentovaný v rôznych častiach Ugandy. Doteraz však neboli zaznamenané žiadne správy z Fakultnej nemocnice Medzinárodnej univerzity v Kampale (*Kampala International University Teaching Hospital*) v západnej Ugande. Táto štúdia bola preto vykonaná s cieľom určiť prevalenciu a antibiotickú rezistenciu kmeňov MRSA u pacientov hospitalizovaných na chirurgickom oddelení. **Metódy:** Stery z rán boli odobraté pacientom oboch pohlaví hospitalizovaným na chirurgickom oddelení. Vzorky boli následne kultivované na vhodných pôdach. Získané kolónie *Staphylococcus aureus* boli testované na rezistenciu voči oxacilínu, aby sa identifikovali kmene MRSA. Ďalej bola diskovou difúznou metódou stanovená antibiotická rezistencia izolátov MRSA voči rôznym antibiotikám. **Výsledky:** Zo sto štrnástich izolátov z klinických vzoriek bolo iba sedemdesiatpäť jasne identifikovaných ako *S. aureus*, z čoho 85,3 % bolo koaguláza-pozitívnych a 13,3 % koaguláza-negatívnych. Prevalence meticilín-rezistentného *Staphylococcus aureus* predstavovala 56,1 %. Medzi izolátmi MRSA bola najvyššia rezistencia pozorovaná voči ciprofloxacínu, zatiaľ čo rezistencia voči ceftriaxónu bola najnižšia. **Záver:** Vysoká prevalencia MRSA medzi pacientmi chirurgického oddelenia si vyžaduje prijatie vhodných opatrení na zamedzenie ďalšieho šírenia tohto patogénu. Odporúča sa zistiť zdroj týchto liekovo rezistentných kmeňov MRSA, aby bolo možné navrhnúť cielené opatrenia, ktoré zabránia budúcemu výskytu ťažko liečiteľných infekcií.
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References	1. Appelbaum PC. “MRSA—the tip of the iceberg”. *Clin Microbiol Infect.* 12(Suppl 2):3–10. 2006

2. Brown DF, Edwards DI, Hawkey PM, et al, on behalf of the Joint Working Party of the British Society for Antimicrobial Therapy, Hospital Infection Society, Infection Control Nurses Association. "Guidelines for the laboratory diagnosis and susceptibility testing of methicillin- resistant Staphylococcus aureus (MRSA)". *J Antimicrob Chemother* 56:1000–18. 2005
3. Francis JS, Doherty MC, Lopatin U, Johnston CP, Sinha G, Ross T et al. "Severe community-onset pneumonia in healthy adults caused by methicillin-resistant Staphylococcus aureus carrying the Panton-Valentine leukocidin genes". *Clin Infect Dis.* 40:100–7. 2005
4. Healy CM, Hulten KG, Palazzi DL, Campbell JR, Baker CJ. "Emergence of new strains of methicillin-resistant Staphylococcus aureus in a neonatal intensive care unit". *Clin Infect Dis.* 39:1460–6. 2004
5. Saxen S, Singh K. and Talwar V. "Methicillin Resistance Staphylococcus aureus prevalence in Community in East Delhi area". *Jpn J Infect Dis*. 56:54-56. 2003
6. Ojulong J, Mwambu TP, Joloba M, Bwanga F, Kaddu-Mulindwa DH. "Relative prevalence of methicillin resistant Staphylococcus aureus and its susceptibility pattern in Mulago Hospital, Kampala, Uganda". *Tanzan J Health Res* 11: 149–153. 2009
7. Moremi N, Mshana SE, Kamugisha E, Kataraihya J, Tappe D, et al. "Predominance of methicillin resistant Staphylococcus aureus -ST88

and new ST1797 causing wound infection and abscesses". *J Infect Dev Ctries* 6: 620–625. 2012

8. Ojikan-Odeke. M.Med. dissertation on "Hand infections in Uganda". 19-40. 1978
9. Mugisa D.B. M. Med Surgery dissertation on "Complications following laparotomy in Mulago Hospital". 59-156. 1988
10. Olaro .C. M.Med Surgery dissertation on "Study to assess risk factors for Postoperative Complication following abdominal Surgery in Mulago hospital". 1-3. 1999
11. Kitara LD, Anywar AD, Acullu D, Odongo-Aginya E, Aloyo J, Fendu M. "Antibiotic susceptibility of Staphylococcus aureus in suppurative lesions in Lacor Hospital, Uganda". *African Health Sciences.* 11 (S1): S34 - S39. 2011
12. Shanson DC. "Antibiotic Resistant Staph aureus". *J Hospit infect.* 2:11-16. 1981
13. Boyce JM. "Increasing prevalence of MRSA in the USA". *J Infect Control and Hospital Epidemiol.* 11:639-642. 1990
14. Kateete D, Kimani C, Katabazi F, Okeng A, Okee M, Nanteza A, Joloba M, Najjuka F. "Identification of Staphylococcus aureus: DNase and Mannitol salt agar improve the efficiency of the tube coagulase test". *Annals of Clinical Microbiology and Antimicrobials* 9(1):23. 2010

15. Bull AL, Worth LJ, Richards MJ. "Impact of Vancomycin Surgical Antibiotic Prophylaxis on the Development of Methicillin-Sensitive Staphylococcus aureus Surgical Site Infections: Report From Australian Surveillance Data (VICNISS)". *Annals of surgery.* 256 (6): 1089-1092. 2012

16. Kateete DP, Namazzi S, Okee M, Okeng A, Baluku H, Musisi NL, et al. "High prevalence of methicillin resistant Staphylococcus aureus in the surgical units of Mulago hospital in Kampala, Uganda". *BMC Research Notes.* 4:326. 2011
17. J Ojulong, T Mwambu, M Jolobo, E Agwu, F Bwanga, C Najjuka, D Kaddu-Mulindwa. "Prevalence of Methicillin resistant Staphylococcus aureus (MRSA) among isolates from surgical site infections in Mulago hospital- Kampala, Uganda". *The Internet Journal of Infectious Diseases.* Volume 7 Number 2. 2008
18. Jean-Marie Liesse Iyamba, José Mulwahali Wambale, Cyprien Mbundu Lukukula, Ntondo za Balega Takaisi-Kikuni. "High prevalence of methicillin resistant staphylococci strains isolated from surgical site infections in Kinshasa". *Pan African Medical Journal.* 18:322. 2014
19. Bashir Mwambi, Jacob Iramiot, Freddie Bwanga, Marthae Nakaye, Herbert Itabangi and Joel Bazira. "Clindamycin Resistance among Staphylococcus Aureus Isolated at Mbarara Regional Referral

Hospital, in South Western Uganda". *British Microbiology Research Journal* 4(12): 1335-1344. 2014

20. Jeremiah Seni, Christine F Najjuka, David P Kateete, Patson Makobore, Moses L Joloba, Henry Kajumbula, *et al*. "Antimicrobial resistance in hospitalized surgical patients: a silently emerging public health concern in Uganda". *BMC Research Notes* 6:298. 2013
21. Najat Buzaid, Abdel-Naser Elzouki, Ibrahim Taher, Khalifa Sifaw Ghenghesh. "Methicillin-resistant Staphylococcus aureus (MRSA) in a tertiary surgical and trauma hospital in Benghazi, Libya". *J Infect Dev Ctries*. 5(10):723-726. 2011
22. Ching Jou Lim, Allen C. Cheng, Jacqueline Kennon, Denis Spelman, Dayna Hale, Gabrielle Melican et al. "Prevalence of multidrug-resistant organisms and risk factors for carriage in long-term care facilities: a nested case–control study". *J Antimicrob Chemother* 2014.
23. Meng Xiao, He Wang, Ying Zhao, Lei-Li Mao, Mitchell Brown, Yun-Song Yu et al. "National Surveillance of Methicillin-Resistant *Staphylococcus aureus* in China Highlights a Still-Evolving Epidemiology with 15 Novel Emerging Multilocus Sequence Types". *Journal of Clinical Microbiology* 51 (11): 3638–3644. 2013
24. Alain C. Juayang, Gemma B. de los Reyes,April Joy G. de la Rama, Christine T. Gallega. "Antibiotic Resistance Profiling of Staphylococcus aureus Isolated from Clinical Specimens in a Tertiary

Hospital from 2010 to 2012". *Interdisciplinary Perspectives on Infectious Diseases* 898457: 4. 2014

25. Obianuju Onelum, Babatunde Odetoyin, Anthony Onipede and Adesola Oyelese. "The Role of Methicillin-Resistant Staphylococcus aureus in Clinical infections in Obafemi Awolowo University Teaching Hospitals Complex, Ile-Ife, South Western Nigeria". *Journal of Microbiology & Experimentation.* 2(2): 00041. 2015
26. Rita Khanal, Prakash Sah, Pramila Lamichhane, Apsana Lamsal, Sweety Upadhaya and Vijay Kumar Pahwa. "Nasal carriage of methicillin resistant Staphylococcus aureus among health care workers at a tertiary care hospital in Western Nepal". *Antimicrobial Resistance and Infection Control.* 4:39. 2015
27. Cosgrove SE, Qi Y, Kaye KS, Harbarth S, Karchmer AW, Carmeli Y. "The impact of methicillin resistance in Staphylococcus aureus bacteremia on patient outcomes: mortality, length of stay, and hospital charges". *Infect Control Hosp Epidemiol.* 26:166–74. 2005
28. Gastmeier P, Schwab F, Sohr D, Behnke M, Geffers C. "Reproducibility of the surveillance effect to decrease nosocomial infection rates". *Infect Control Hosp Epidemiol.* 30:993–9. 2009
29. G. Sganga, C. Tascini, E. Sozio, M. Carlini, P. Chirletti, F. Cortese et al. "Focus on the prophylaxis, epidemiology and therapy of methicillin-resistant Staphylococcus aureus surgical site infections and a position paper on associated risk factors: the perspective of an

Italian group of surgeons". *World Journal of Emergency Surgery* 11:26. 2016

30. Rubin RJ, Harrington CA, Poon A, Dietrich K, Greene JA, Moiduddin A. "The economic impact of Staphylococcus aureus infection in New York City hospitals". *Emerg Infect Dis.* 5:9–17. 1999
31. Pandya N, Chaudhary A, Mehta S, Parmar R. "Characterization of Methicillin Resistant Staphylococcus aureus from various clinical samples at Tertiary care hospital of rural Gujarat". *J Res Med Den Sci*. 2(3):49-53. 2014