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Title	Drug resistant <i>Staphylococcus aureus</i> in clinical samples at Kampala International University-teaching hospital, Bushenyi District, Uganda.
Authors	Janet Nalwoga, Michael Tirwomwe, Albert Nyanchoka Onchweri, Josephat Nyabayo Maniga, Cyprian Mose Nyaribo, Conrad Ondieki Miruka
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Abstract	Baggrund: Methicillin-resistant <i>Staphylococcus aureus</i> (MRSA) er et vigtigt hospitalserhvervet (nosokomialt) patogen, som ofte forårsager infektioner, der er svære at behandle. Dette skyldes, at patogenet normalt også er resistent over for andre almindeligt anvendte antibiotika. Forekomsten af lægemiddelresistent MRSA blandt patienter er tidligere blevet dokumenteret i forskellige dele af Uganda. Der foreligger dog endnu ingen rapporter for Kampala International University Teaching Hospital i det vestlige Uganda. Dette studie blev derfor udført med det formål at bestemme prævalensen (forekomsten) og antibiotikaresistensen af MRSA-stammer hos indlagte patienter på en kirurgisk afdeling. Metoder: Der blev indsamlet podninger fra sår hos både mandlige og kvindelige patienter indlagt på den kirurgiske afdeling. Prøverne blev efterfølgende dyrket på relevante medier. De opnåede kolonier af <i>Staphylococcus aureus</i> blev testet for oxacillin-resistens for at identificere MRSA-stammerne. Endvidere blev antibiotikaresistensen af MRSA-isolaterne bestemt ved hjælp af skivediffusionsmetoden (metode med antibiotikatabletter) over for forskellige antibiotika. Resultater: Ud af 114 isolater fra de kliniske prøver blev kun 75 isolater klart identificeret som <i>S. aureus</i>, hvoraf 85,3 % var koagulase-positive og 13,3 % var koagulase-negative. Prævalensen af methicillin-resistent <i>Staphylococcus aureus</i> var 56,1 %. Blandt MRSA-isolaterne blev den højeste resistens observeret over for ciprofloxacin, mens resistensen over for ceftriaxon var den laveste. Konklusion: Den høje prævalens af MRSA blandt patienter på den kirurgiske afdeling nødvendiggør relevante tiltag for at forhindre yderligere spredning af patogenet. Det anbefales at identificere kilden til disse lægemiddelresistente MRSA-stammer for at kunne udforme passende interventioner, der kan forebygge fremtidig opståen af infektioner, som er svære at behandle.
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References	1. Appelbaum PC. "MRSA—the tip of the iceberg". <i>Clin Microbiol Infect.</i> 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 <i>Staphylococcus aureus</i> (MRSA)”. <i>J Antimicrob Chemother</i> 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 <i>Staphylococcus aureus</i> carrying the Panton-Valentine leukocidin genes”. <i>Clin Infect Dis</i>. 40:100–7. 2005 4. Healy CM, Hulten KG, Palazzi DL, Campbell JR, Baker CJ. “Emergence of new strains of methicillin-resistant <i>Staphylococcus aureus</i> in a neonatal intensive care unit”. <i>Clin Infect Dis</i>. 39:1460–6. 2004 5. Saxen S, Singh K. and Talwar V. “Methicillin Resistance <i>Staphylococcus aureus</i> prevalence in Community in East Delhi area”. <i>Jpn J Infect Dis</i>. 56:54-56. 2003 6. Ojulong J, Mwambu TP, Joloba M, Bwanga F, Kaddu-Mulindwa DH. “Relative prevalence of methicillin resistant <i>Staphylococcus aureus</i> and its susceptibility pattern in Mulago Hospital, Kampala, Uganda”. <i>Tanzan J Health Res</i> 11: 149–153. 2009 7. Moremi N, Mshana SE, Kamugisha E, Kataraihya J, Tappe D, et al. “Predominance of methicillin resistant <i>Staphylococcus aureus</i> -ST88
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	and new ST1797 causing wound infection and abscesses”. <i>J Infect Dev Ctries</i> 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”. <i>African Health Sciences</i>. 11 (S1): S34 - S39. 2011 12. Shanson DC. “Antibiotic Resistant Staph aureus”. <i>J Hospit infect</i>. 2:11-16. 1981 13. Boyce JM. “Increasing prevalence of MRSA in the USA”. <i>J Infect Control and Hospital Epidemiol</i>. 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”. <i>Annals of Clinical Microbiology and Antimicrobials</i> 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)”. <i>Annals of surgery</i>. 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”. <i>BMC Research Notes</i>. 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”. <i>The Internet Journal of Infectious Diseases</i>. Volume 7 Number 2. 2008 18. Jean-Marie Liesse Iyamba, José Mulwahali Wambale, Cyprien Mbundu Lukukula, Ntongo za Balega Takaisi-Kikuni. “High prevalence of methicillin resistant staphylococci strains isolated from surgical site infections in Kinshasa”. <i>Pan African Medical Journal</i>. 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”. <i>British Microbiology Research Journal</i> 4(12): 1335-1344. 2014 20. Jeremiah Seni, Christine F Najjuka, David P Kateete, Patson Makobore, Moses L Joloba, Henry Kajumbula, <i>et al.</i> “Antimicrobial resistance in hospitalized surgical patients: a silently emerging public health concern in Uganda”. <i>BMC Research Notes</i> 6:298. 2013 21. Najat Buzaid, Abdel-Naser Elzouki, Ibrahim Taher, Khalifa Sifaw Ghenghesh. “Methicillin-resistant <i>Staphylococcus aureus</i> (MRSA) in a tertiary surgical and trauma hospital in Benghazi, Libya”. <i>J Infect Dev Ctries.</i> 5(10):723-726. 2011 22. Ching Jou Lim, Allen C. Cheng, Jacqueline Kennon, Denis Spelman, Dayna Hale, Gabrielle Melican <i>et al.</i> “Prevalence of multidrug-resistant organisms and risk factors for carriage in long-term care facilities: a nested case-control study”. <i>J Antimicrob Chemother</i> 2014. 23. Meng Xiao, He Wang, Ying Zhao, Lei-Li Mao, Mitchell Brown, Yun-Song Yu <i>et al.</i> “National Surveillance of Methicillin-Resistant <i>Staphylococcus aureus</i> in China Highlights a Still-Evolving Epidemiology with 15 Novel Emerging Multilocus Sequence Types”. <i>Journal of Clinical Microbiology</i> 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 <i>Staphylococcus aureus</i> Isolated from Clinical Specimens in a Tertiary
--	---

	Hospital from 2010 to 2012”. <i>Interdisciplinary Perspectives on Infectious Diseases</i> 898457: 4. 2014 25. Obianuju Onelum, Babatunde Odetoyin, Anthony Onipede and Adesola Oyelese. “The Role of Methicillin-Resistant <i>Staphylococcus aureus</i> in Clinical infections in Obafemi Awolowo University Teaching Hospitals Complex, Ile-Ife, South Western Nigeria”. <i>Journal of Microbiology & Experimentation</i>. 2(2): 00041. 2015 26. Rita Khanal, Prakash Sah, Pramila Lamichhane, Apsana Lamsal, Sweety Upadhaya and Vijay Kumar Pahwa. “Nasal carriage of methicillin resistant <i>Staphylococcus aureus</i> among health care workers at a tertiary care hospital in Western Nepal”. <i>Antimicrobial Resistance and Infection Control</i>. 4:39. 2015 27. Cosgrove SE, Qi Y, Kaye KS, Harbarth S, Karchmer AW, Carmeli Y. “The impact of methicillin resistance in <i>Staphylococcus aureus</i> bacteremia on patient outcomes: mortality, length of stay, and hospital charges”. <i>Infect Control Hosp Epidemiol</i>. 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”. <i>Infect Control Hosp Epidemiol</i>. 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 <i>Staphylococcus aureus</i> surgical site infections and a position paper on associated risk factors: the perspective of an
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	Italian group of surgeons”. <i>World Journal of Emergency Surgery</i> 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”. <i>Emerg Infect Dis.</i> 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”. <i>J Res Med Den Sci.</i> 2(3):49-53. 2014
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