

FIRST REPORT OF EXTENSIVELY DRUG RESISTANT (EDR) AND *mecA* POSITIVE *STAPHYLOCOCCUS CAPITIS* STRAIN ISOLATED FROM NEONATAL BLOOD CULTURE AT FATTIMA-AL-ZAHRA HOSPITAL, BAGHDAD, IRAQ

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(Received 23 April 2019, Revised 22 July 2019, Accepted 11 August 2019)

ABSTRACT : This is the first report of extensively drug resistant and *mecA* positive *Staphylococcus capitis* isolated in Baghdad. A *Staphylococcus capitis* strain was isolated from a neonatal blood culture of a 10-days-old newborn male baby on April, 2014, at Fattima-AL-Zahra Hospital for pediatric and obstetric in Baghdad, Iraq. Vitek-2 automated system was used to identification this strain and to test the antimicrobial susceptibility. From the result of antimicrobial susceptibility test *Staphylococcus capitis* strain was methicillin resistance and vancomycin resistance. This strain considered as extensively drug resistant, because it resist to all antibiotics in the sensitivity card except trimethoprim-sulphamethoxazole antibiotic. Molecular detection of *mecA* and *vanA* genes by PCR assay showed the presence of *mecA* gene in this methicillin-resistant *Staphylococcus capitis* strain with 258-bp band, while it was negative to *vanA* gene.

Key words : *Staphylococcus capiti*, *vanA* gene, *mcA* gene, Extensively drug resistant (EDR).

INTRODUCTION

The coagulase-negative staphylococci (CoNS) with the over fourty recognized species or subspecies, are found as normal inhabitants on the skin and mucous membranes. Recently, CoNS has got an attention as a potential pathogen, particularly for the nosocomial infections (Rogers *et al*, 2009 and Winn *et al*, 2006). CoNS may also serve as sources of the infections when the normal defenses of the host were impaired by diseases, immunosuppressive therapy and also by the use of invasive devices or when the delicate balance of this microbiota is altered by antibacterial therapy (Palazzo *et al*, 2005). Infections caused by coagulase-negative staphylococci well recognized, including bacteraemia that it associated with the indwelling medical devices, endocarditis and the urinary tract infections (Rogers *et al*, 2009).

The blood stream infection is a serious problem, which it needs to the immediate attention and treatment. Blood stream infection is a cause of high mortality mostly if it is caused by multidrug resistant bacteria (Murty and Gyaneshwari, 2007 and Hussein *et al*, 2015). Bacteremia caused by CoNS occurs as a result of the long term of

the usage of indwelling central venous catheters, administration of parenteral nutrition and previous antibiotics (Winn *et al*, 2006). The neonatal sepsis, mostly due to CoNS, it occurs frequently in the neonatal intensivecare units, particularly in very low birth weight infants and newborn (Boghossian *et al*, 2013 and Butin *et al*, 2017). Series cases of neonatal sepsis due to *Staphylococcus capitis* have been reported in different countries (Van Der Zwet *et al*, 2002).

Multi-drug resistance (MDR) Staphylococci bacteria have a remarkable ability to adapt rapidly to the antibiotic pressure (Palazzo *et al*, 2005). A significant increase in the methicillin-resistant was noticed in staphylococci infections and recently these bacteria started to gain resistance to most widely used antibiotics. The vancomycin antibiotic is the main antimicrobial agent available to treat the serious infections caused by methicillin-resistant staphylococci (Hiramatsu *et al*, 1997). Coagulase negative staphylococci (CoNS) with resistance to the vancomycin antibiotic have been reported in several countries (Center *et al*, 2003). In this study, reported the first case of blood stream infection of newborn male baby caused by extensively drug resistant