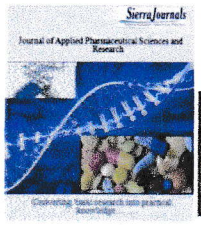

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Antibacterial activity of *Euphorbia antiquorum* latex

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Abstract:

Euphorbia antiquorum is a large shrub or small tree belonging to the largest and the most diverse family in the plant kingdom, Euphorbiaceae. *E. antiquram* latex was used as a classical binding agent for the kshara sutra in the management of the anal fistula.

In the present study, an attempt was made to evaluate the antimicrobial properties of latex of *E. antiquorum* on certain microbes. The methanolic extract of the latex was prepared. The fractions of methanol extract were tested for their antibacterial activity against the Gram positive bacteria, *Streptococus agalactiae* and *Staphylococcus aureus* and Gram negative bacteria *Escherichia coli* and *P. aeruginosa*.

The results revealed that the latex showed minimum inhibition only to *E. coli* and *S. aureus*. Latex did not posses antibacterial activity against *S. agalactiae* and *P. aeruginosa*. The results suggest that the *E. antiquorum* latex extract account for the antibacterial properties and has a potential for use as an antimicrobial agent.

1. Introduction

In recent years, considerable interest has been evidenced by the medical professionals regarding the use of indigenous drugs in the treatment of diseases (Ananth et al., 2010). The toxic effects produced by the administration of drugs are much more a serious problem than that of the disease itself. These factors compel us to search for safe formulation from alternative medicinal system, which is devoid of side effects in the body (Siddique et al., 2010). Herbal drugs could be scientifically modified for better pharmacological activity to establish safe and effective drugs (Rahman et al., 2009). Infectious diseases have been a life threatening problem for humans before antibiotics (Seyyednejad et al., 2010) and were important cause of morbidity and mortality among humans and account for about half of the death in tropical countries (Khosravi et al., 2006). With time infection rates have increased and antibiotic resistance has become an increasing therapeutic problem (Jarvis, 2008; Mitscher, 2008).

Chemotherapy has not achieved the much-required success in the eradication of microbial infection because of the antimicrobial resistance developed by most pathogenic microorganisms (Unlu et al., 2008). Bacterial infections are some of the most serious global health issues of present century (Ananth et al., 2010), they are evolving numerous mechanisms to evade antimicrobial agents (Parekh and Chanda, 2007, Sharath K et al., 2016). There is a need to identify new and novel antimicrobial agents that would help in alleviating the problems of emerging resistant pathogens (Talib et al., 2010). Using the different antimicrobial and phytochemical constituents of medicinal plants for the treatment of microbial infections as possible alternative to chemically synthetic drugs to which many infectious microorganisms have become resistant (Akinpelu et al., 2006) is widely accepted. A better understanding of the ecological role for antibiotics and antibiotic resistance in non-clinical environments may eventually help to predict and counteract the emergence and future evolution of resistance (Martinez et al., 2008)

Fistula in ano is one of the commonest ailments pertaining to the ano-rectal area and is very difficult to cure by surgical intervention where the side effects like incontinence and high chance of recurrence are commonly experienced. Kshara sutra treatment is an effective way of curing fistula without side effect and least recurrences. Thus the kshara sutra may have antimicrobial activity and its chemical nature responsible for the pharmacology activities of the thread. Kshara sutra thread is prepared by