**Study the effect of aqueous extracts for some medical plants against pathogens which isolated from urinary tract infections**

Fadhl Ahmed Saeed Al-gosha’ah\*; Shayma Munqith Al-baker

Department of Medical Microbiology - Faculty of Science - Ibb University

[Fad974@yahoo.com](mailto:Fad974@yahoo.com)

**ABSTRACT**

Eighty-five urine specimens were collected from patients suffering from urinary tract infections and taken from various hospitals in Ibb city. After cultural and biochemical diagnosis, bacterial growth was appeared in (73) out of (85) specimens with a ratio (85.9%). The results indicated that (27) isolates with a ratio (31.8%) belonged to *Staphylococcus saprophyticus*, (26) isolates with a ratio (30.6%) belonged to *Escherichia coli*, (15) isolates with a ratio (17.7%) belonged to *Proteus mirabilis* and (5) isolates with a ratio (5.9%) belonged to *Staphylococcus aureus*. Antibiotic sensitivity test was done for the bacterial isolates and the results showed multiple antibiotics resistant.

The work also included extraction of antimicrobial agents for four medical plants (*Trigonella foenum-graecum, Foeniculum vulgare, Linum usitatissimum, Ammi visnaga*) by using aqueous extraction method. Disk-diffusion assay was used to evaluate the antimicrobial activity of various concentrations of aqueous extracts (12.5, 25, 37.5 and 50) mcg/ml. The results indicated that all concentrations revealed antimicrobial activity and the highest concentration (50) mcg/ml was more effective than other concentrations against bacterial isolates.

**Keywords: urinary tract infections, bacteria, antibiotics, medical plant.**

**Background**

Infection of urinary tract system is one of the most commonly occurred especially that acquired in hospital. Infectious diseases of the urinary tract are ether ascending or descending. Random uptake antibiotic leads to appearance of strains resist to one or more type of antibiotics. At recent years the scientists used herbal medicine replace antibiotics and chemical drugs.

**Methods**

Eighty-five urine specimens were collected from patients suffering from urinary tract infections and taken from various hospitals in Ibb city. After cultural and biochemical diagnosis, the bacterial were identified. Antibiotic sensitivity test was done for the bacterial isolates.

The work also included extraction of antimicrobial agents for four medical plants (*Trigonella foenum-graecum, Foeniculum vulgare, Linum usitatissimum, Ammi visnaga*) by using aqueous extraction method

**Results**

After cultural and biochemical diagnosis, bacterial growth was appeared in (73) out of (85) specimens with a ratio (85.9%). The results indicated that (27) isolates with a ratio (31.8%) belonged to *Staphylococcus saprophyticus*, (26) isolates with a ratio (30.6%) belonged to *Escherichia coli*, (15) isolates with a ratio (17.7%) belonged to *Proteus mirabilis* and (5) isolates with a ratio (5.9%) belonged to *Staphylococcus aureus*.

Antibiotic sensitivity test was done for the bacterial isolates and the results showed multiple antibiotics resistant.

Disk-diffusion assay was used to evaluate the antimicrobial activity of various concentrations of aqueous extracts (12.5, 25, 37.5 and 50) mcg/ml. The results indicated that all concentrations revealed antimicrobial activity and the highest concentration (50) mcg/ml was more effective than other concentrations against bacterial isolates.

**Conclusions**:

1. Staphylococcus saprophyticus was the predominant bacterial isolate followed by Escherichia coli, then the other bacterial types Proteus mirabilis and Staphylococcus aureus in urinary tract infection.
2. There was a relation between isolated bacterial types and sex, Staph. sarprophyticus recorded the highest percentage of isolation from infected women, while Escherichia coli gave the highest percentage of isolation from infected men.
3. All isolates revealed multiple resistant to various antibiotics.
4. Almost all concentrations (12.5, 25, 37.5, and 50) mcg/ml of the extracts of the studied plants showed a high antibacterial activity against pathogenic bacteria which isolated from urinary tract infection.
5. The concentration (50) mcg/ml of both aqueous and alcoholic plant extracts was more effective on the isolates than other concentrations
6. The aqueous crude extracts was more effective on the isolates and the antibacterial activity decreased whenever the dilution increased.