Antioxidant and antibacterial activities of bulb extracts from *Scilla maritime.*

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Scilla maritima is widely used for the treatment of dermatological problems, respiratory and vaginal ailments, in the region of Setif. The present study reports the evaluation of antioxidant, antihemolytic and antibacterial activities of bulb extracts (CrE: crude extract, HeE: hexane fraction, EaE: ethyl acetate fraction and AqE: aqueous fraction) from this medicinal plant. Total polyphenols and flavonoids of different extracts were determined and ranged from 60.7 to 168.72 ± 5.89 EAG/g and 5.93 to 11.68 µg EQ/mg, respectively. The antioxidant activity of these extracts was evaluated by several methods. Potent DPPH scavenging activity was exhibited by EaE and AqE (IC_{50} of 24.77±0.96 and 46.93±1.44 µg/ml), and these fractions were either the most active in inhibition of β-carotene oxidation (86.38 and 92.36%). CrE showed a significant chelating activity (IC_{50} = 553.07±51.14 µg/ml). While, EaE displayed the greater reducing power (EC_{50} = 38.5±1.14 µg/ml) and inhibited significantly the hemolysis of red blood cells. Antibacterial activity was performed using the disc diffusion method and the inhibition zones varied from 11.5 to 33 mm. On the other hand, MIC and MBC ranged from 0.09 to 6.25 mg/ml and 1.56 to 25 mg/ml, respectively. Results indicate that CrE was bactericidal against *Bacillus cereus*, but bacteriostatic against *Staphylococcus aureus* and *Proteus mirabilis*. However, EaE was bactericidal against these bacterial strains. In addition, good synergistic effects were obtained between extracts and standard antibiotics, where inhibition zones varied between 32 and 48 mm. hese results support the use of this species in traditional medicine and could be used where antioxidant and antibacterial are warranted.

Key words: *Scilla maritima*, polyphenols, antioxidant, antibacterial activity.