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ANTIOXIDANT ACTIVITY OF LEMON VARIETIES MEYERA AND UZBEK FRUIT

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ABSTRACT

In the article, the antioxidant activity of lemons was determined by phytochemical study of Meyer Uzbek fruit samples. The results showed that the drugs have antioxidant properties.

KEYWORDS: *Antioxidant, Meyer, Extract, Phytochemistry, Adrenaline, Autoxidation, Optical Density.*

INTRODUCTION

When determining the antioxidant activity, extracts from the peel of fruits of the Meyer and Uzbekcha varieties growing in our natural climate were studied. The results did not show a clear difference between them **[1]**.

Antioxidant activity was determined by phytochemical study of lemon samples L1 (Meyer) and L2 (Uzbek fruit). The antioxidant activity of lemon is determined by the inhibition of the adrenaline autoxidation reaction in vitro and prevents the formation of the free form of oxygen. The method is based on the inhibition of the adrenaline autooxidation reaction, expressed as a percentage (%), due to the formation and autooxidation of adrenaline over time under in vitro conditions of drugs **[2]**.

Experimental part: received 2.0 ml of 0.2 M sodium carbonate (Na_2CO_3-$NaHCO_3$) buffer pH = 10.65, 56 µl of 0.18% solution of adrenaline (epinephrine) hydrochloride. Added 30 mkl of antioxidant drug (lemon) and tested on a spectrophotometer (Cary 60 UV-Vis Agilet Technologies) at a wavelength of 347 nm at intervals of 30 seconds to 10 minutes. The test amount (concentration of 1 mg solution in 1 ml) was used as a reference. As a control, 2.0 ml buffer with 0.2 M and 0.18% 56 mkl (5.46 mm) epinephrine was used.

Results and discussion: Antioxidant activity was calculated by the following formula for the inhibition of adrenaline autoxidation.

$$AA\% = \frac{D1 - D2 \times 100}{D1}$$

Where,

D_1-absorbance of adrenaline hydrochloride solution added to buffer;

D_2-optical density of the studied extract and epinephrine hydrochloride added to the buffer.

TABLE 1 TEST DRUG

№	drug	The writing	Solubility	*In vitro* mkg/ml
1	L1	Meyer	water	100/250/500/750/1000
2	L2	Uzbek fruit	water	100/250/500/750/1000

TABLE 2 RESULTS OF ANTIOXIDANT PROPERTIES OF LEMON SAMPLES (L1 AND L2)

№	drug	Control	An experience	%
1	L1 (10%) 100 mg/ml	0.2890	0.2541	11.28
2	L1 (25%)250 mg/ml	0.2305	0.2122	13.34
3	L1 (50%)500 mg/ml	0.1054	0.1640	13.97
4	L1 (75%)750 mg/ml	0.20551	0.1810	15.54
5	L1 (100%)1000 mg/ml	0.27024	0.2319	16.34
1	L2 (10%) 100 mg/ml	0.2046361	0.1822	14.56
2	L2 (25%)250 mg/ml	0.23685	0.1940	17.19
3	L2 (50%)500 mg/ml	0.20312	0.1657	17.32
4	L2 (75%)750 mg/ml	0.24545	0.1704	17.65
5	L2 (100%)1000 mg/ml	0.23652	0.2284	18.98
	Gliclazide			10,0%

The antioxidant activity of the preparations was determined by the in vitro adrenaline autoxidation method. Antioxidant activity was assessed using phytochemical studies of the studied preparations **[3,4]**.

CONCLUSION

When determining the antioxidant activity of drugs by inhibiting the reaction of adrenaline autoxidation in vitro, the samples inhibited the formation of a free form of oxygen. Samples L1 and L2 were compared with standard antioxidants quercetin and gliclazide antioxidants. The results showed that the drugs have antioxidant properties.

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