ISOLATION OF VINCAMINE FROM Vinca minor

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The preparation vincametrine (the hydrochloride of the alkaloid vincamine) is used in medicine as a parturifacient [1]. At the present time, it is isolated from the plant Vinca erecta, which grows in the Tadzhik SSR [2].

To broaden the raw-materials basis for the production of vincametrine, we have developed an adsorption method for obtaining vincamine from the epigeal part of Vinca minor, which grows in the western part of the USSR. A method is known for the isolation of vincamine [3, 4] which consists in extraction with organic solvents and subsequent chromatography on Al_2O_3.

When cation-exchange resins are used in the extraction process, expensive solvents – toluene and benzene – are not used and extraction is performed with dilute aqueous solutions of acids.

In this method, the comminuted raw material (10 kg) was extracted continuously with a 1% solution of sulfuric acid at the rate of 200 liters/h · m^2 at room temperature. This gave 120 liters g of extract, which was filtered and was passed through two adsorbers connected in series. Each adsorber was charged with 800 g of KU-1 cation-exchange resin in the H form. The columns saturated with alkaloids were washed with water, and desorption was performed with a 1.5% solution of ammonia in 85-90% ethanol. The ethanolic eluate (15 liters) was treated with hydrochloric acid to pH 2-2.5 and evaporated in vacuum. The aqueous residue (1.5 liter) was treated with ether twice and was made alkaline (pH 9) with 25% ammonia, and the alkaloids were extracted with ether (4.5 liters). The extract was evaporated in vacuum to 100 ml. On standing, it deposited crystals of vincamine (2.2 g). The action of ethanolic hydrogen chloride on the vincamine gave the preparation vincametrine. Yield 0.02% (on the weight of the dry raw material).

LITERATURE CITED

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