

The use of Phenothiazine and Acridine Derivatives for Drugs Immobilization

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At the present time well known basic dyes methylene blue and ethacridine lactate (2-ethoxy-6,9-diaminoacridine lactate) are used rarely in medical practice. At the same time chemical properties of these phenothiazine and acridine derivatives allow to use its in other medicine fields.

Methylene blue and ethacridine lactate and its structural analogs form low soluble conjugates with polyanions and some large organic anions in water solutions. This dyes property may be used for some drugs immobilisation on the different surfaces. At the initial stage the surface, for example of blood vessels or vascular prosthesis, are stained with methylene blue or ethacridine lactate water solution, at the second stage the surface are coated with medical preparation. Low solubility of methylene blue and ethacridine lactate conjugates with drugs are provided sustained drugs release from the surface.

Complexes methylene blue and ethacridine lactate with blood anticoagulant heparin and antiaggregant acetylsalicylic acid were studied on thrombosis prevention. Conjugates methylene blue and ethacridine lactate with some antibiotics were investigated for antibiotics release from synthetic vascular prosthetic materials, for prevention bacterial adhesion or proliferation.

Dyes interaction with some drugs have not influence over anticoagulant and antibiotics activity.