

# Topical Membrane Adhesive Drug Delivery

## System

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We have investigated several topical membrane adhesive dosage forms containing hydroxypropyl cellulose and carbopol to find such an advanced technology of control of bioavailability as so-called drug delivery system or transdermal system. In a series of our studies, (1) first we tried to design a new topical dosage form for carcinoma colli, which is still now under clinical investigation in cooperation with gynecologists. Setting on portio vaginalis of voluntary patients, the preparation swelled well with the body fluid, sticking to the disease part with a good adhesiveness. With the preparations containing such as bleomycin, there was observed a high percentage of disappearance of cancerous focus in patients. Next, (2) we tried an oral mucosal dosage form for the absorption of insulin. The bioavailability was about 0.5% of that in intramuscular administration in dogs. Anyhow this may be the first case showing that insulin is absorbed from oral mucosal membrane. As an extension of the previous study, (3) we developed an adhesive tablet for aphthous stomatitis. The product "Aftach" is now on market. Recently, (4) we designed a powder dosage form of nasal absorption of insulin. The bioavailability of insulin in dogs was about one third of that in intravenous administration.