

1. INFLUENCE OF MYRTECAINE ON THE PERCUTANEOUS ABSORPTION OF DIETHYLAMINE SALICYLATE

1.1 BALEA ET AL., 1975 [4]

1.1.1 Experimental method

Twelve male Fauve de Bourgogne rabbits with a mean weight of 2.5 kg were used.

The ointments were applied twice to each rabbit 15 days apart.

Two groups of 6 rabbits each were studied :

* group 1 : application of ointment with myrtecaïne;

* group 2 : application of ointment without myrtecaïne.

Five grams of ointment were applied to each animal's abdomen. Blood samples were drawn from a catheter inserted into the external jugular vein at baseline and 3, 6, 7, 9, and 11 hours after application.

Salicylic acid was measured by spectrophotometry.

1.1.2 Results

Results are presented in tables 10 and 11 and shown in diagram form in Figure 6. One rabbit died and consequently only 11 animals were evaluated.

With both preparations, serum salicylic acid levels increased steadily over time. However, percutaneous absorption of diethylamine salicylate varied across animals. These results are shown in the following table and figure that indicate the slopes and regression lines for serum salicylate levels over time.

Salicylaemic regression over time in groups A and B.
Slopes of regression lines.

Rabbits, n°	I	II	IV	V	VI	VII	VIII	IX	X	XI	XII
Slope P for group A	2.24	3.38	2.20	4.28	1.76	1.38	3.90	1.40	1.14	1.14	0.94
Slope P for group B	2.06	1.02	2.04	0.94	1.30	1.06	0.90	0.48	0.54	0.46	0.30
ΔP	0.18	2.36	0.16	3.34	0.46	0.32	3.00	0.92	0.60	0.68	0.64

Mean Salicylaemia with (A) and without (B) myrtecaine and regression lines for Salicylaemia over time.

Salicylaemia

mcg/ml

t (hours)

1.1.3 Conclusion

These data show that use of myrtecaïne significantly increases salicylaemia. Up to twofold increases were seen. This effect may be due to local increases in capillary permeability induced by myrtecaïne, following penetration in the skin.

1.2 HAUSLEITER ET AL., 1980 [7]

used groups of 5, 6, and 7 New Zealand rabbits to study percutaneous resorption of ¹⁴C-labeled diethylamine salicylate contained in two different preparations.

1.2.1 Experimental method

The two preparations used were :

- * Algesal baume® containing 10% diethylamine salicylate
- * ALGESAL Suractivé® containing 10% diethylamine salicylate and 1% myrtecaïne.

With both preparations, a dose of 50 mg/kg labeled diethylamine salicylate in solution in saline was injected into a vein of one ear. Five grams of ointment were applied to the shaved back of each animal. The ointment was rubbed in and the site of application was covered with an occlusive dressing throughout the period of urine collection.

Urinary radioactivity was measured by scintillation.

Measurements were performed up to the 72nd hour after intravenous administration and up to the 120th and 144th hours after percutaneous administration of Algesal baume® and ALGESAL Suractivé® respectively.

The amounts of salicylates eliminated in the urine were used to calculate the percentage of salicylates resorbed.