

on vegetables and fruits is not uncommon since the introduction of arsenic-containing sprays as insecticides.

Kuchenbecker devised a qualitative test for the demonstration of aromatic bases in the urine of persons exposed to these compounds. By diazotizing these substances in the urine and coupling the resulting products to the sodium salt of a phenyl or benzoyl derivative of 2,5,7-aminonaphthol sulfonic acid, a reddish compound is obtained. Kuchenbecker claimed for his test also quantitative effects, but Berenblum commented that the test is good only for qualitative results and is unreliable in quantitative respects. Kuchenbecker found the largest amounts of aromatic amines in the urine of workers exposed to inhalation of substances in dust form.

VI. TIME OF EXPOSURE AND PERIOD OF LATENCY

In conformity with observations made on occupational tumors in general, aniline tumors will ensue, as a rule, only after a relatively long time of exposure to the carcinogenic agents. Although no definite information exists concerning the minimal time necessary for eliciting a blastomatous change, various authors place the minimal period in general at two years. Koelsch, however, contended that an exposure of only six months to beta-naphthylamine may be sufficient to cause a neoplasm of the bladder.

Oppenheimer (1927) recorded that the period of exposure ranged from one to forty-one years, with an average of seventeen years, while the first symptoms were observed from eight to forty-one years of exposure, with an average of eighteen and a half years. Mueller's (1936) observations are similar (exposure period, from two to twenty-eight years; first clinical symptoms, from nine to twenty-eight years, with an average of eighteen years). Henschen gave the average length of exposure as seventeen years (range, from two to thirty-five years); the average time of exposure for benign tumors in his experience was fourteen years and four months and that for malignant neoplasms nineteen years. Gehrman found, on the other hand, that the average time of exposure for 24 malignant tumors was 13.2 years, and for 39 benign tumors 12.07 years.

In a series of 137 cases collected by the author from the European literature, the incidence of tumors after various periods of exposure appears as follows:

Years	1-5	6-10	11-15	16-20	21-25	26-30	31-35	36-40
Cases	16	20	29	35	16	9	6	6

Evans arranged his 83 American cases according to duration of exposure as follows:

Years	1-5	6-10	11-15	16-20	21-25	26-30	31-35	36-40
Cases	11	20	28	21	2	1	0	0

A comparison of the two tabulations reveals the fact that, in the American