

as it seemed to produce bladder tumors most rapidly and most frequently. In support of his contention, he presented the following tabulation:

	<i>Aniline and Homologues</i>	<i>Benzidine</i>	<i>Beta- naphthylamine</i>	<i>Other Bases</i>
Cases	78	25	67	19

Similar relations are apparent from the tabulation published by Evans:

	<i>Benzidine</i>	<i>Beta- naphthyl- amine</i>	<i>Alpha- naphthyl- amine</i>	<i>Miscel- laneous Aromatic Amines</i>	<i>Alpha- and Beta- naphthyl- amine</i>
Cases	13	16	20	27	7

The high incidence of bladder tumors following exposure to beta-naphthylamine is shown by the absolute number listed. It becomes more striking if consideration is given to the fact that in Germany many more men are employed in operations employing aniline than in operations employing beta-naphthylamine and that there are 29 additional cases on record in that country in connection with which beta-naphthylamine exposure is highly probable (Engel, 1937).

While Berenblum conceded that there are differences in the tumor incidence in the different departments of a dye factory, he noted at the same time that there is no reason to believe that the morphology of the tumors observed in the different departments varies and depends upon the particular chemical handled. Engel (1937) is, on the other hand, of the opinion that the benign or malignant character of a bladder lesion has a certain relation to the chemical nature of the aromatic amine which caused it. Tumors resulting from exposure to beta-naphthylamine are, according to his contention, more likely to be papillomas, while those following contact with aniline, benzidine and their homologues are more frequently primarily malignant. He offered the following compilation in support of his claim:

	<i>Aniline and Homologues</i>	<i>Benzidine</i>	<i>Beta- naphthyl- amine</i>	<i>Other Bases</i>
Cases of papillomatosis	11	5	16	5
Cases of carcinomatosis	25	22	15	5

Di Maio contends that beta-naphthylamine seemed to transform papillomas more rapidly into carcinomas than benzidine.

An analysis of the data furnished by Gay in regard to the American cases seems to support, to a certain degree, the opinion of Engel (1937). Among 59 bladder tumors diagnosed histologically, 29 were malignant and 30 were benign; that is about the same ratio as found by Engel for the beta-naphthylamine tumors. As the majority of the American patients had been exposed