

anatomically with that observed in bladder tumors of unknown cause. More detailed information as to the different types and their relative frequency is not readily obtainable from the descriptions in individual case reports. Gay has grouped his 61 cases, according to the grade of histologic malignancy, as follows:

	Gay's Aniline Series Cases	Per Cent	Gaylor's Cryptogenetic Series: 480 Cases Per Cent
Early lesion	2		
Papilloma, grade 1	30	55.66	10
Papillary carcinoma, grade 2	14	26.00	32
Carcinoma, grade 3	9	16.00	35
Carcinoma, grade 4	1	2.34	23
Carcinoma, ungraded	2		
Mixed grades	3		

The marked discrepancy in the distribution of grades in the two series is due to the fact that the occupational tumors come to observation at a stage before some of them have undergone malignant transformation.

Among them were tumors with squamous and adenoid features but none was of sarcomatous type.

The author had the opportunity to examine and evaluate biopsy sections obtained from bladder lesions found in 67 dye workers (125 specimens, 25 of which represented early lesions, such as inflammatory reactions, mucous polyps, polyps with papillary epithelium and leukoplakia) and similar sections removed from 14 dogs which had been exposed to commercial beta-naphthylamine and had acquired bladder tumors (85 biopsy specimens). In addition, the author has studied numerous sections prepared from the bladders of 5 of these dogs which came to autopsy. Four showed grossly diffuse papillomatosis. One had remained cystoscopically normal. As neither a detailed nor a systematic presentation of the histologic character of preneoplastic and neoplastic lesions of the bladder caused by aromatic amines has been rendered, the following description, based on the evidence mentioned and representing a composite picture of the various changes seen in man and dogs, is given.

Non-neoplastic Lesions.—The non-neoplastic lesions of the bladder can be divided into the following types:

1. Inflammatory reactions (simple and ulcerative, i.e., irritation bladder and aniline ulcer (Henschen)).
 2. Intra-epithelial abnormalities.
 3. Leukoplakia (simple, papillary and infiltrative) (Müller, A. (1931)).
 4. Mucous polyps (simple, papillary and infiltrative).
1. *Inflammatory reactions of chronic type.* These were observed occasionally in man and dogs. Such a lesion appeared cystoscopically as a small reddish