

CLINICAL PAPER /

BRAIN METASTASES



Distribution of Brain Metastases

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ABSTRACT

The number and site of brain metastases were identified on the computed tomographic scans of 288 patients. There was one brain metastasis in 49%, two in 21%, three in 13%, four in 6%, and five or more in 11% of scans. In patients with one metastasis, the posterior fossa was involved in 50% of patients when the primary tumor was pelvic (prostate or uterus) or gastrointestinal, but it was involved in only 10% of patients with other primary tumors. Hemispherical metastases preferred the anatomic "watershed areas" (29% of the brain surface contained 37% of the metastases), indicating that tumoral microemboli tend to lodge in the capillaries of the distal parts of the superficial arteries. The charts of 134 patients with brain metastases from a primary tumor originating outside the lung revealed that the incidence of lung and spine metastases was the same, whether the primary tumor was pelvic or gastrointestinal or from another site. These data suggest that the high incidence of subtentorial lesions in patients with pelvic and gastrointestinal primary tumors cannot be explained by arterial embolization alone, and that this peculiar distribution is probably not explained by seeding of the brain through Batson's plexus.