

STATdx®

STATdx® Brain tumor

Brain Metastases

KEY FACTS

- Imaging**
 - F-18 FDG PET/CT
 - Hypermetabolic or hypometabolic relative to gray matter F-18 FDG uptake
 - Hypermetabolic: Lung, breast, melanoma, colorectal, head and neck, thyroid cancer
 - Hypometabolic: Mucinous tumors, renal cell carcinoma
 - Variable: Lymphoma
 - Less accurate for detecting small lesions (< 1.5 cm) due to high background activity in brain parenchyma
 - Photopenia in regions of edema
- Top Differential Diagnoses**
 - Brain abscess
 - Usually hypermetabolic
 - Central hypometabolism signifies necrosis
 - Cerebrovascular accident
 - Hyper- or hypometabolic
 - Primary parenchymal **glioblastoma**
 - Variable uptake depending on tumor &/or tumor grade
 - Meningioma
 - Hypometabolic
 - Primary pathology
 - Hypermetabolic activity near sella turcica
 - Micro- or macroadenoma
 - Hypophysitis
 - Metastasis
 - Posttreatment effects
 - Hypermetabolic activity acutely (surgery, radiotherapy)
 - Hypometabolic regions correspond to treated tumor
 - Epilepsy
 - Hypometabolic in regions of chronic seizure
 - Can be hypermetabolic if seizure occurs at time of F-18 FDG injection/uptake

TERMINOLOGY

Definitions

- Brain tumor**: secondary to extracranial neoplasm

IMAGING

General Features

- Best diagnostic clue
 - F-18 FDG PET/CT: Hypermetabolic or hypometabolic lesion ± surrounding photopenia, depending on patient edema
 - Limits of detection usually > 1.5 cm
 - CECT/MRI: Infiltrating intraxial mass at gray-white matter junction
- Location
 - Classically at gray-white matter junction
 - 80% central hemispheres (frontal lobe > parietal lobe)
 - 15% cerebellum
 - 5% basal ganglia
 - Brainstem (rare)
- Morphology
 - Well circumscribed more common than infiltrating
 - Spherical
 - Number of lesions
 - > 1 = more



Avoid preventable diagnostic errors and reduce variability in outcomes with Elsevier STATdx



Clinical Solutions

The influence of radiology

Touching nearly every patient and disease category, the influence of radiology on the patient experience, cost, and quality of care is clear. Imaging not only represents an enormous cost of care, but the significant rate of unnecessary radiologic testing and radiology reading error rates demonstrate a significant opportunity for value improvement.

Elsevier STATdx® supports radiologists with credible, reliable online diagnostic decision support that increases speed, accuracy and confidence in diagnosing complex imaging cases.

Protecting providers and patients

STATdx online diagnostic decision support can help protect your organization and its patients against:

- Errors in observation and interpretation
- Unnecessary testing and overutilization of radiology resources
- Fragmentation in radiology operations and oversight
- Rising downstream healthcare costs

Key information at critical times

Whether radiologists are reading images in an unfamiliar specialty, analyzing a complex case or teaching others, STATdx supports them in delivering the best clinical decisions, providing superior patient care recommendations and practicing cost-efficient care.

With content written by renowned radiologists in each specialty, STATdx includes:

- More than 4,700 common and complex diagnoses
- 200,000 expert-selected and annotated image examples
- Approximately 1,400 differential diagnosis modules
- Comprehensive normal imaging anatomy
- 20,000 easily sortable patient cases with cine clips for select topics
- Over 200 basic and advanced procedures

Rising downstream healthcare costs

As litigation around misdiagnoses increases and providers face expanding incentive and penalty-based payment models, the need for consistent, sustainable radiologic services becomes even more critical. Imaging work has a significant downstream impact on quality outcomes. With the right diagnostic decision support solution in place, imaging teams gain the confidence needed to help avoid errors in observation and interpretation.

To learn more about STATdx or to request a trial, visit www.statdx.com.

