

History

After cranial radiation therapy (RT), check for:

- Level of energy, general health
- Any new & ongoing symptoms including:
 - Visual problems
 - Hearing loss & tinnitus
 - Neurological symptoms (headaches, seizures, strokes & TIA type episodes)
 - Short term memory changes
 - Depression
- Alcohol, tobacco & illicit drug use
- List of physicians/ HCPs following patient
- Social & employment
- Current medications

After chemotherapy, check for:

- Hearing loss
- Numbness of hands & or feet or pain (peripheral neuropathy)
- Renal problems urinary symptoms
- Infertility

After spinal RT, also check for:

- Level of energy (hypothyroidism)
- Back pain secondary to degenerative disease & osteoporosis
- Infertility

Examination

After spinal RT also check:

- Spine for kyphosis/scoliosis & short sitting height

Always Check:

- Blood pressure
- Weight and height (BMI)
- Skin in previous RT field (e.g. basal cell carcinomas)
- Look for hair thinning/loss in occipital region
- Examine neck to exclude thyroid nodules
- Neurological examination
- Visual acuity, visual fields & fundoscopy
- General examination of respiratory, cardiovascular & GI systems

DISCLAIMER: This document gives examples of the way in which patients previously treated for supratentorial PNET might be followed for educational purposes only. These examples are NOT guidelines for patient care.

Authors: D. Lawless, F. Howard & K. Goddard: www.pedsoncologyeducation.com

Testing

Hearing Assessment

Audiology referral & testing should be organized every 1 - 2 years

Neurocognitive Testing

Important to demonstrate problems with higher mental function in order to obtain vocational or recreational rehabilitation or to be eligible for a disability pension

Blood Work

- Routine blood work (CBC, lytes, creatinine, BUN & LFTs)
- Hep C testing if blood transfusion prior to 1994
- Pituitary function should be supervised by an endocrinologist (e.g. GH deficiency is very common, but other problems such as ACTH deficiency may develop many years after therapy)
- Thyroid function tests (at least free T4 & TSH)
- For metabolic syndrome:
 - Fasting serum lipids & glucose

Screening

Radiology

- MR of the head every 3 years or so in long term follow up to exclude RT induced meningiomas
- Ultrasound scan of the thyroid every 3 years after cranial and craniospinal RT to exclude thyroid carcinoma

Other Screening

- After spinal RT there is an increased risk of secondary malignancy:
 - Check skin in previous RT field for skin cancers
 - Early screening for colon cancer: COG recommends that colonoscopy should be performed beginning at age 35 years or 10 years following RT (whichever occurs last)
- Early screening for osteoporosis (bone density and specialist referral)

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Specialist Follow-up

Patient should be assessed every 1 - 2 years by:

- Endocrinologist
- Ophthalmologist or neuro-ophthalmologist
- Likely to benefit from family counseling, psychology and psychiatry consultations

Advice

ACTH deficiency:

- Supratentorial PNET survivors with hypopituitarism & ACTH deficiency need support with extra steroid medication during infections, surgery and illness
- Medic Alert bracelets are advised to warn about ACTH deficiency

Second Malignant Neoplasms (SMNs):

The patient should be advised to seek immediate medical help if:

- A new swelling (painless or painful) appears within the previous RT field as this may be due to a SMN
- Severe, persistent headaches develop associated with possible nausea and vomiting (may be associated with a new intracranial mass lesion)

Visit the COG guidelines website for more information:

<http://www.survivorshipguidelines.org>

Lifestyle

- Advise about diet, exercise & lifestyle choices (such as smoking)
- Diet should contain adequate number of dairy servings, Vitamin D & calcium to help prevent osteoporosis
- Previous spinal RT may be associated with spinal underdevelopment, scoliosis, increased risk of degenerative arthritis & osteoporosis. Survivors who had this therapy should avoid work which involves lifting heavy weights
- Avoid sun burn and wear a hat in bright sunlight (skin previously exposed to RT will be more vulnerable to sun related damage).

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