

Do I need to screen for NPC? What is the recommended screening test?

If you have a family history of NPC, screening is strongly recommended as the disease is usually diagnosed at an early stage by screening. Blood tests, e.g. IgA serology and Epstein Barr Virus DNA, should be performed regularly. Nasopharyngoscopy should be carried out if either blood test is abnormal. A special probe swab has also been developed as a screening tool to obtain nasopharyngeal tissue for Epstein Barr Virus genetic test.

Can NPC be prevented?

As certain types of foods have been linked to NPC, reduced or no consumption of preserved and fermented food, and increased intake of fresh fruits and vegetables may help prevent NPC. While Epstein Barr Virus infection remains non-preventable at this stage, scientists are trying to develop a vaccine. Certain types of NPC may also be prevented by quitting smoking.

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Nasopharyngeal Cancer

WINNING AGAINST CANCER

Nasopharyngeal cancer (NPC) is the commonest head and neck cancer in Hong Kong. It is also commonly seen in the Southern part of China where it is up to 25 times higher in incidence than the rest of the world. In Hong Kong, NPC ranked the sixth in male cancer and seventeenth in female cancer in 2017. It was 2.9 times more common in male than in female. Unlike other types of head and neck cancers, NPC occurred at a much younger age, with a median age of 55 in male and 52 in female at the time of diagnosis. It was the most common cancer in young male aged 20 to 44 years in Hong Kong in 2017.

What are the risk factors of NPC?

Like most cancers, multiple factors may increase one's chance of developing NPC:

- A family history of NPC: family members of NPC patients have a higher chance of developing NPC than the general public, with the relative risk of first-degree relatives of NPC patients varying from 6.3 to 21.3.
- Infection with the Epstein-Barr Virus: while Epstein-Barr virus has an important role in the development of NPC, its infection is not sufficient to cause NPC.
- Diet: heavy consumption of preserved, salted and fermented food with high nitrosamine content, such as salted fish, especially in childhood, has been linked to the development of NPC.
- Genetic factors
- Smoking may increase the risk of certain types (keratinizing) of NPC.
- Practice of burning incense sticks
- Occupational exposure to wood dust, formaldehyde and chemical fumes
- Immunocompromised state

What are the symptoms of NPC?

- Lump or mass in the neck: this is the commonest presentation that leads to a NPC diagnosis, due to the spread of tumor from nasopharynx to neck node, which is very common.
- Hearing problem: blocking of ear or hearing loss, usually one side only, is also common in NPC. In case of newly detected ear infection or fluid collection in the ear, the nasopharynx must be examined by doctor to exclude NPC.
- Nasal symptoms, e.g. nose bleeding or blockage
- Headache, which can be due to tumor invading the base of skull
- Blurred or double vision, usually due to tumor invading the base of skull and part of the brain, causing nerve dysfunction
- Facial numbness, usually due to tumor invading the base of skull and part of the brain, causing nerve dysfunction

How is NPC diagnosed?

- Nasopharyngoscopy: using a fiberoptic flexible endoscopy, doctor can examine nasopharynx directly and conduct biopsy for diagnosis.
- Blood test: taking blood for IgA antibody level against various components of Epstein Barr Virus, such as VCA, EA or EBNA. The levels are usually raised in patients with NPC. Another blood test measures the DNA level of Epstein Barr Virus: a positive test is indicative of NPC, while a negative one cannot exclude NPC, especially in early stage when disease is localised. In patients with disseminated disease, Epstein Barr Virus DNA is usually raised.
- Imaging: CT and/or MRI for assessment of local extent of tumor in nasopharynx, and extent of neck node involvement. PET can also detect any spread to other parts of the body, such as lung, bone and/or liver.

What are the treatments for NPC?

- Radiotherapy: radiotherapy is the mainstay of treatment for NPC without distant metastases. Advanced techniques are needed to carry out radiotherapy for NPC to maximise the chance of cure while reducing the associated side effects. Intensity-modulated radiation therapy (IMRT) is considered the standard treatment for NPC. It uses multiple small photon beams of varying intensities to precisely irradiate the target, and the beam shape changes throughout the treatment. The result is the generation of a high dose zone conforming to the often irregular shape of target, while reducing the dose delivered to and sparing surrounding normal tissues. In patients with local recurrence, second course radiotherapy using brachytherapy, radiosurgery or IMRT can be considered.
- Chemotherapy: chemotherapy is often combined with radiotherapy to increase the chance of cure and prevent recurrence. It is often given weekly or every three weeks concurrent with radiotherapy. Chemotherapy can also be given before or after radiotherapy in addition to concurrent chemotherapy, if necessary, to patients with advanced and bulky tumor. In patients with distant metastases, chemotherapy is the mainstay of treatment. Good response and disease control can often be achieved.
- Surgery: surgery is usually reserved for residual disease after radiotherapy, or for recurrent disease when second course radiotherapy is not recommended.
- Immunotherapy: immunotherapy using tumour vaccine, adoptive immunotherapy or PD-1/PD-L1 antibody may have a role in NPC treatment but it is still considered experimental.