THE CHANGING FACE OF HEAD AND NECK CANCER

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There are currently 62,530 people in the UK living with head and neck cancer and it is currently the seventh most common cancer in the UK, with 11,000 new cases being diagnosed each year.[1]

Head and neck cancer is treated with curative intent by surgery and/or chemoradiotherapy, which can leave patients with long-term swallowing problems that can lead to poor dietary intake with some patients requiring a long-term feeding tube.

In the past, the most common causes of head and neck cancer were due to smoking and drinking to excess. An example of a typical patient would be a male in his 60s from a lower social economical background with a high smoking and alcohol history. While this cohort of patients still exists, the demographic has reduced due to the decreasing incidence of smoking in the UK. There has been an increasing trend of patients diagnosed that are tending to be younger (40s-50s), well-educated and who look after their health (never smoked and moderate alcohol consumption)[2] and, therefore, a diagnosis of head and neck cancer comes as a shock to these patients.[3] This centre has treated patients as young as 21.

This change is due to human papilloma virus (HPV) becoming one of the main causes of head and neck cancer and has overtaken excess smoking and drinking as the main cause. Young et al[2] estimate that between 70%-90% of newly diagnosed oropharyngeal cancers contain HPV. HPV positive squamous cell carcinomas (SCC) have a different molecular profile than HPV negative SCC, with HPV positive tumours sharing similarities with cervical carcinomas, making it a very different entity altogether. The evidence available suggests that this increase is due to a change in sexual practices.

Within our multidisciplinary team (MDT), the patients HPV status is commonly requested when a biopsy is being completed, looking specifically at the p16 strain. One of the reasons that HPV is looked for is that it has a significant effect on patient outcomes when treated by radiotherapy. A patient with a HPV positive diagnosis has a better outcome (i.e. are more likely to be cured) than a patient who is HPV negative due to their different molecular profile.

As HPV is mostly associated with oropharyngeal cancers of the head and neck, e.g. base of tongue, pharyngeal wall and tonsils, these structures are particularly important in terms of swallowing and are often treated by radiotherapy as a primary treatment, or given after surgery. During treatment to these areas, Speech and Language Therapy is often needed to assess how safe the patient's swallow is due to swelling and inflammation. Dietetic input pre-, during and post-treatment is, therefore, paramount to maximise oral intake, reassessing the need for enteral feeding and preventing malnutrition, while dealing with treatment toxicity.

The identification of HPV positive carcinomas has led to a change in how radiotherapy is given to these patients, with this patient group being given a lower dose of radiotherapy (De-escalate),[4] which, in turn, may help to reduce some of the long-term

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side effects associated with this treatment, including xerostomia and swallowing dysfunction. However, symptoms such as pain, mucositis, swallowing problems and mouth ulcers are still prevalent while the patient is undergoing treatment.

While HPV and head and neck cancer are frequently talked about, other demographic groups that have a prevalence of nasopharyngeal cancer are the populations of southern China, South Asia, the Artic and Middle East.[5] I see this demographic of patients frequently during my practice and they are tested by the MDT for the Epstein-Barr virus (EBV). People who have immigrated to western countries including the United Kingdom, United States and Australia, are still more likely to develop nasopharyngeal cancer (NCP) than the native populations of the country that they have immigrated to. The risk of this population developing NCP decreases the longer the person is a resident in the country and in succeeding generations. So, it is likely that this patient group will continue to be seen in clinical practice and again they are usually treated with radiotherapy as a primary treatment.

The link between NPC and the populations of these countries have been long established and have a multifactorial aetiology. Two of the main risk factors in this demographic of patients precluding the development of NPC includes the Epstein-Barr virus and diet. Other factors include gender (more prevalent in males), genetic factors and a family history. As with other head and neck cancers, smoking and an excess of alcohol will increase the risk factor of developing this type of cancer.

EBV is normally developed in childhood all over the world; however, it is only when mixed with the other risks factors that this can turn into NPC. The link between EBV and NPC is not fully understood and is very complex, but it may be that the way the body deals with the virus may contribute to the development to NPC.

Diet has a contribution to the development of NPC. People in south-east Asia and China commonly preserve food, especially fish, by salting them. These salt-preserved foods are dietary staples and children in these countries are often weaned on these foods. Studies have shown that salt preservation is an inefficient way to preserve food, leading to putridification of the food and the production of nitrosamines which are known to be carcinogenic in animals.[6]

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In a pre-treatment clinic, it is worth taking a diet history to see if the patient is still eating a traditional Asian diet and advising to decrease the amount of salt in the diet.

Conversely, some studies have shown that eating frequent amounts of fruit and vegetables can decrease the risk of developing NPC.[7] Some studies have shown that specific foods, such as citrus fruits, green leafy vegetables, carrots and fresh soya bean, can decrease the risk of NPC.

This may be due to the antioxidant effect of eating a diet high in fresh fruit and vegetables, which may reduce the production of nitrosamines and free radicles. Therefore, there is evidence that a diet high in fruit and vegetables in this patient demographic may be protective against NPC.

CASE STUDY

A patient with nasopharyngeal cancer attended pre-treatment clinic for radiotherapy and was already having chemotherapy at the point of initial contact. This patient was born in the UK with Chinese heritage and was 36 years old. The patient reported following a Chinese diet at home, which included plenty of salted fish, rice, soya and vegetables such as pak choi. This patient had an interest in nutrition and Chinese herbal medicine and believed in the healing power of food. We discussed diet at length including a high protein, high energy and altered textured diet to help them maintain their weight and muscle mass during treatment.

When taking a diet history, the patient reported having 'healing' soups with plenty of ginger, garlic and Chinese herbs which he was making himself. The patient felt that these soups had antioxidant properties that would help with the cancer treatment. We discussed the fact that the soup was low in protein and energy and we discussed how to fortify this soup to increase the calorie and protein content with cream, or by adding cheese, or by having them with high protein, high energy snacks as a cup of soup, so that it wouldn't fill him up and he would be able to meet his protein and energy requirements. We also discussed with the patient having unsalted fish due to the stinging/ burning sensation that the patient would experience on their soft palate and in their mouth.

The patient did well during treatment, with minimal weight loss due to supplements and a high energy, high protein diet. The patient also continued with his soups and Chinese herbs during the treatment. Longer term, the patient was advised to swap the salted fish to fresh or frozen fish on a more regular basis, but that he could have it occasionally and to continue to have a diet high in fruit and vegetables.

It was important for this patient to negotiate and compromise and to adjust the dietary advice for a Chinese diet while taking into consideration the patients beliefs around how his diet would nourish and heal his body. Due to discussions that were had at pre-treatment regarding body composition and muscle wasting, the patient was happy to have a high protein diet and to make changes in his diet to reflect this. This resulted in the patient becoming more compliant during treatment and meeting his nutritional goals.

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