

Cancer Of Unknown Primary

Cancer of Unknown Primary is often a difficult diagnosis and results from a protracted pathway to diagnosis. It affects 2% of cancer cases in the UK, with 8,589 cases each year between 2016-2018 (Cancer Research UK, 2023) and the average prognosis following CUP diagnosis is 9-12 months.

What is CUP?

It is defined as a rare disease in which malignant cells are found in the body but the primary site of the cancer is not known (National Cancer Institute, 2021). During the typical malignant process, cancer can develop in any body tissue and retains characteristics of the cells in the type of tissue from which the cancer originates. While this primary cancer can metastasise, these metastatic deposits are consistent with the primary tumour. For example, In some cases, metastatic disease is detected but the primary site, despite multiple tests, is not found.

[Image 1]
(National Cancer Institute, 2021)

There are multiple reasons why the primary site of disease is not detected.
For example:

- Due to a small, slow growing primary that cannot be detected.
- Immune system destruction of primary tumour
- Resection of primary tumour unknowingly during surgery for another condition.

The likelihood of CUP diagnosis increases with age and metastasis are often widely disseminated at the point of diagnosis.

[Image 2]

Hemminki, (2016), Age-Dependent Metastatic Spread and Survival: Cancer of Unknown Primary as a Model

Symptoms of CUP:

As with any type of cancer, CUP usually presents with known symptoms of cancer; weight loss, pain (particularly at the site of a mass), fever, poor appetite, swelling/distension, as well as localised symptoms depending on the site of disease within the body.

Forming a Cancer Diagnosis

When a cancer diagnosis is suspected, a process of 'work-up' to diagnosis is commenced. This includes blood tests, including cancer markers, CXR/CT/MRI scan for full disease assessment and tissue biopsy to fully characterise the cancer.

In general, a cancer diagnosis can be formed with the results of these tests. For example, a breast mass visible on CT, CA15-3, CA19-9 and/or AFP elevated and confirmation of breast tissue cells within the tissue biopsy. This information is important in formulating a treatment plan and understanding the driver of the cancer itself.

For CUP patients, the work-up tests and examinations do not allow for this clarity in diagnosis. Particularly in terms of biopsy, the cells are poorly differentiated or undifferentiated, meaning they are highly abnormal and have not become specialised enough to look like the cells of a particular tissue.

Further to this, while tumour markers (CA15-3, CA19-9, LDH, AFP etc) can be used as a guide to indicate cancer and can be helpful for confirmation of a particular cancer alongside other information, they are not specific to certain cancers alone.

Treatment of CUP:

As no primary site of cancer is found, there is no formal staging system for CUP.

However, any information that has been gathered about the cancer is used to formulate a treatment plan. For example, elevated hormone levels can support the use of hormone deprivation treatments.

There are four types of treatment generally used to treat CUP:

- Surgery
- Radiotherapy
- Chemotherapy
- Hormone

Clinical trials are testing new types of combinations of treatment.

What impact does a CUP diagnosis have on the patient?

A diagnosis of CUP or MUO can cause a great deal of frustration and anxiety for a patient and their family. With the difficulty in obtaining a diagnosis comes a protracted period of tests and scans which results in longer waiting times and uncertainty. Once the diagnosis of CUP has been reached, the patient then has further uncertainty about what that means for them, particularly when it comes to prognosis or life expectancy. While even in more specific diagnoses predictions around prognosis can never be certain, it is possible to give timelines based on clinical evidence and research around life expectancy. In CUP, this is more difficult because the driver of the cancer is unknown.

[Image 3]

Hemminki, (2012), Survival in cancer of unknown primary site: population-based analysis by site and histology

What can nurses do to support this patient group?

It is important to understand the frustrations and difficulties experienced by this group of patients in order to effectively support them through their diagnostic journey and treatment. Ensuring effective communication and the availability of information will help the patient and family to come to terms with the diagnosis and the impact this has.

The likelihood of CUP diagnosis increases with age and has often metastasised more widely at the point of diagnosis. It is crucial to assess fitness of treatment and whether work-up and treatment are appropriate. Early conversations about their wishes for treatment, for escalation of care and resuscitation are necessary to advocate for the patient and to ensure that all their team are working in their best interests.

No matter the type, a diagnosis of cancer is always life changing and shocking. It forces people to come to terms with their own mortality and uncertainty about their future. With a diagnosis of CUP, these feelings are even more heightened because of the uncertainty surrounding the diagnosis and its implications of treatment options and success. At the point of suspicion of cancer, through the protracted diagnostics pathway and throughout the duration of their cancer journey, it is crucial that patients and family have someone to turn to with questions and for support.

References:

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