BACKGROUND: In the United Kingdom, national guidance published in 2010 recommended the establishment of specialist teams to improve clinical pathways for patients presenting with malignancies of undefined primary origin (MUO) and cancer of unknown primary (CUP). This study sought to define outcomes of patients referred to a regional MUO/CUP service.
METHODS: Data were collected prospectively on all patients ($n = 1225$) referred to a regional CUP team over a 10-year period. Patient demographics, clinical, pathological and outcome data were recorded and analysed.
RESULTS: Confirmed CUP (cCUP) was diagnosed in 25% of patients. A primary metastatic cancer was identified in 36%, 5% were diagnosed with provisional CUP (pCUP), 27% retained the diagnosis of MUO and in 8% a non-cancer diagnosis was made. Median survival was low in all patients with a final malignant diagnosis: primary identified 9.0 months, cCUP 4.0 months, pCUP 1.5 months and MUO 1.5 months.
CONCLUSIONS: Patients presenting with MUO have poor outcomes irrespective of the final diagnosis. These patients need a patient-centred, streamlined, rapid diagnostic pathway. There are clear benefits to primary and secondary care teams having access to a dedicated, multidisciplinary MUO/CUP service, with clinical nurse specialists supporting the patients, to help facilitate this pathway and ensure early oncology review.

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BACKGROUND

Patients presenting with a metastatic malignancy identified on clinical or radiological examination without an obvious primary site are said to have a malignancy of undefined primary origin (MUO) [1–3]. These patients may present to healthcare professionals in any clinical speciality, with over half diagnosed during emergency admissions to acute healthcare services [1]. Unlike patients with an obvious primary, in whom there are established multidisciplinary teams (MDTs), clear investigative pathways and monitored cancer targets, patients presenting with MUO can have protracted pathways to diagnosis and management, long hospital stays and be discussed by multiple MDTs. Whilst many of these patients will be found to have a defined underlying primary cancer after further investigations, some will not and will end up with a diagnosis of cancer of unknown primary (CUP). Historically, oncology teams have seen patients to discuss treatments once a confirmed histological diagnosis has been made, and after discussion at a cancer MDT meeting.

In the United Kingdom (UK) the National Institute for Clinical biopsy, will be diagnosed with either: a defined primary cancer, a non-cancer diagnosis or a diagnosis of cancer of unknown primary [2, 3, 4]. Patients with CUP have pathological evidence of malignancy but no confirmation of a primary cancer site, despite a standardised comprehensive diagnostic workup in accordance with published guidelines [2, 3]. CUPs may be defined further into provisional CUP (pCUP) or confirmed CUP (cCUP) dependent on the extent of investigation and whether the patient has been reviewed by an oncologist with a specialist interest in CUP [2]. Whilst this terminology is well recognised by those working in acute oncology and CUP teams, it is less well known by non-specialist teams, and the diagnosis of 'CUP' can be used somewhat indiscriminately. CUP represents ~2% of all new cancer diagnoses in the UK, and despite being only the 15th most common cancer by incidence, it is the 6th most common cause of cancer death [5].

The 2010 NICE guidelines for MUO/CUP recommended that every hospital with a Cancer Centre should establish a CUP team [2]. As a minimum, this should consist of an oncologist, a palliative