BOOM (British Orthopaedic Oncology Management) Audit Protocol

Aim:

To understand the current management of metastatic bone disease (MBD) in the UK and compliance with the BOOS (British Orthopaedic Oncology Society) guidelines.

Methods:

Collaborators in each participating trust will collect data prospectively using a locked, coded Excel spreadsheet. The data collection period is for a 3 month period (1st April 2021 to 30th June 2021). All patients with a diagnosis of metastatic bone disease are to be included.

Information will be collected on the quality of service delivery and patient factors, including:

1. Presence of a metastatic bone disease lead consultant at each enrolled hospital;
2. Patient demographics (age and gender);
3. Mode of presentation and evidence of pathological fracture;
4. The primary malignancy diagnosis;
5. What initial blood tests were requested;
6. What imaging was acquired;
7. The location and number of MBD lesion(s),
8. Whether an oncological opinion was obtained. If not, when was the most recent one;
9. If solitary, was a pre-operative histological diagnosis achieved;
10. Was a referral made to a tertiary centre;
11. Operation details
    a. Procedure performed
    b. When (in or out of hours)
    c. Grade of lead surgeon
    d. Grade of lead anaesthetist;
12. The time from presentation to admission and to surgery;
13. The follow-up plan.

The data will be pseudonimised using a key only known to the participating organisation. No other patient identifiable data will be collected or stored by the study.

Analysis:

Gathered data will be analysed to identify trends in treatment of metastatic bone disease and enable us to make recommendations for improvements. Statistical software (SPSS) will collate and analyse data. All data and outcomes will be reported descriptively with continuous outcomes reported as mean (standard deviation) or median (interquartile range). Binary or categorical data will be reported as counts, proportions and percentages. Outcomes will be presented in graphical manner. Comparisons will be made using established tests for parametric and non-parametric data with a pre-determined significance of 0.05.

Step by Step method for collaborators:

1) Register for the project by emailing BOOS.ROH@nhs.net
2) Identify local consultant lead and register the project as an audit with your local relevant department (e.g. clinical governance/audit department). An example proforma is attached.
3) Begin prospectively collecting information on all patients with Metastatic Bone Disease
4) Collect data in the spreadsheet provided
5) Any patients who do not have a diagnosis of metastatic bone disease to be excluded
6) At the end of the data collection period, the anonymised data spreadsheet should be sent by 14th July 2021 to BOOS.ROH@nhs.net

Data collection points:

1) **Metastatic Bone Lead**
Single question, to identify whether a specific consultant lead is designated at the centre for metastatic bone disease

2) **Patient ID**
Use your local hospital identifier. This is collected locally only to ease data collection. **This MUST be deleted prior to submission of data**

3) **Patient Code**
This is a pseudonym to be created locally by the hospital site and created sequentially, to allow for central identification of errors and queries to be directed to investigation site (E.G. ROH01, ROH02 etc.).

4) **Patient age and gender**
To identify patient demographics

5) **Primary cancer diagnosis**
Please select from the dropdown box the most appropriate diagnosis and provide any additional information in the comments section. Date of initial cancer diagnosis also collected

6) **Referral to a tertiary centre**
To be answered Yes/No. If the answer is yes, please provide any details available in the comments section e.g. telephone discussion, tertiary referral, transferred to tertiary centre.

7) **Was an oncological opinion sought before surgery**
To be answered as Yes/No, defined as an opinion sought after presentation with MBD from oncologist.

8) **What initial blood tests were requested?**
Select Yes/No in each of the appropriate columns

9) **What imaging was performed and timings of imaging**
Select from the dropdown box options which imaging was performed pre-operatively and provide the dates

10) **Location of the metastasis**
Select from the available options, please select the most appropriate option or options and provide details in the comments box

11) **Number of metastases**
Select from the available options

12) **What was the histological diagnosis**
Pre-operative biopsy? Yes/No. Samples sent intra-operatively should provide a histological diagnosis and answer the following question: Consistent with the primary diagnosis Yes/No

13) **What was the time from initial presentation to admission and to surgery**
Measured in days

14) **What operation was performed, when and by whom**
Select from the options available, selecting the most appropriate option and providing details in the comments box

15) **What follow-up was arranged**
Select Yes/No for whether they had Orthopaedic follow up planned on discharge

Please do not try to alter the fixed data entry categories - any changes in spelling or spacing will render the data useless/ prevent analysis. Select the best-fit option possible - add short notes in the comments cell if required.

Data Submission

Before submitting date delete your local hospital identifier from the spreadsheet.

Send your spreadsheet via secure email (please use NHSmail) to BOOS.ROH@nhs.net. If you have not got NHSmail, you must use your organisation's method for sending secure email. It is not sufficient to password the spreadsheet.

Data Storage

Individual spreadsheets and the consolidated data set will be stored on a protected folder held on the secure Royal Orthopaedic Hospital network drive. Access will be limited to the lead clinician and the clinician carrying out the data analysis.

Data Retention

Data will be held for 3 years.