Comparison of histopathology turnaround times for mandibulectomies, glossectomies and routine tongue biopsies

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Introduction

Histopathology is essential to achieve a diagnosis from a tissue sample and provide guidance to the clinical team. However the histopathology process can be slow and cause delays in patient management. The aims of this study were to:

- Compare the time interval between receipt of the specimen and issue of the histopathology report (the turnaround time) for mandibulectomies, glossectomies and incisional tongue biopsies,
- Determine how many mandibulectomies and glossectomies meet 7 & 10 day key performance indicators (KPI) of the RCPath.

Methodology

Retrospective data collected from LIMS Winpath over 5-year period:

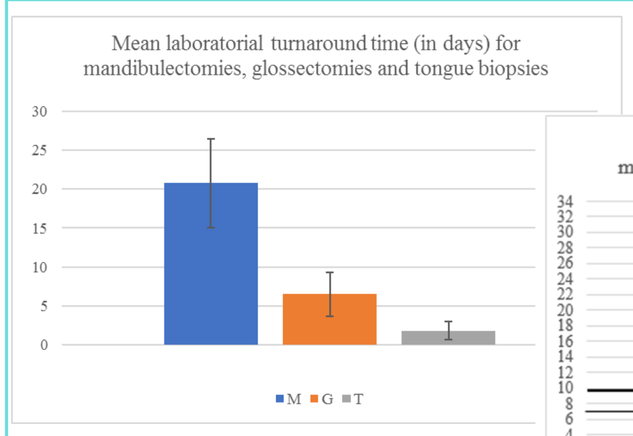
- 100 mandibulectomies (4 subgroups), 100 glossectomies (2 subgroups) and 100 incisional tongue biopsies.

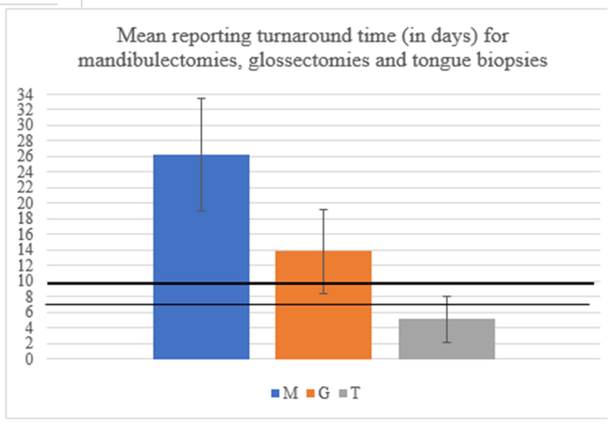
The information retrieved included:

- Date specimen was entered in the system,
- Number of days until embedding,
- Number of days until slides were sent out,
- Number of days until report was authorised
- Number of days tissue was in decalcification,
- Number of blocks processed per sample,
- Presence of bone/teeth,
- Tumour staging.

Statistical analysis was performed using descriptive and inferential methods.

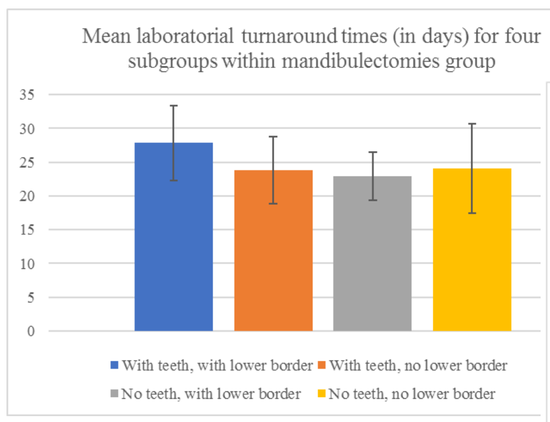
Results

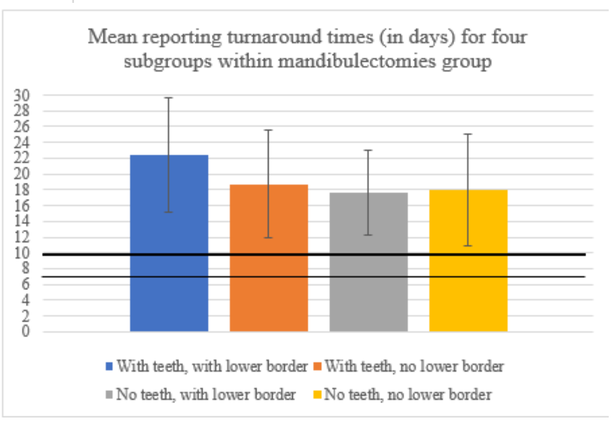




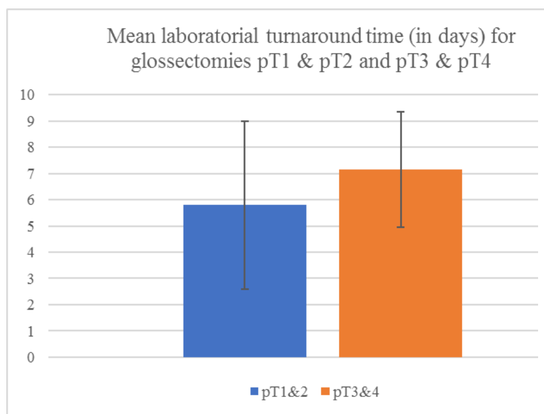
Statistically significant differences were found between means of laboratorial and reporting turnaround times for the three different groups ($p < 0.001$).

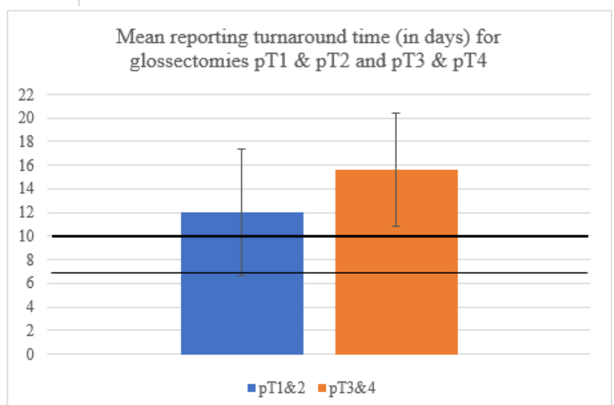
Results (cont.)



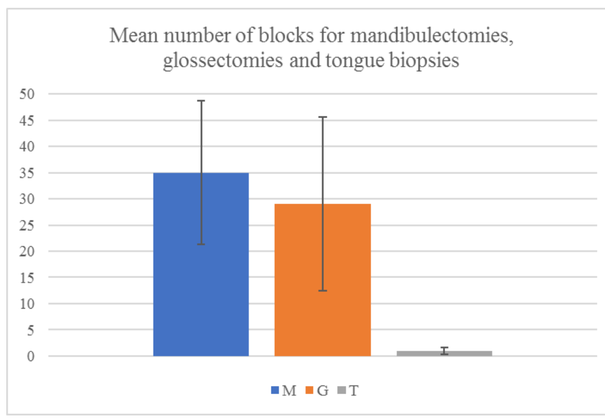


Statistically significant differences were found between means of laboratorial and reporting turnaround times for the mandibulectomies groups ($p = 0.003$ and $p = 0.037$), none of which met KPIs.





Statistically significant differences were found between means of laboratorial and reporting turnaround times for the glossectomies groups ($p = 0.015$ and $p = 0.001$). Only 31% met the 10 day KPI.



Statistically significant differences were also found between number of blocks for the three main groups ($p < 0.001$)

Discussion and conclusion

Presence of teeth and bone, the number of blocks processed, and stage of malignant disease all had an impact on turnaround times for histopathology specimens.

Dissection, **microtomy** and **reporting** were identified as the "bottlenecks" where there is potential for improvement.

Since few resections specimens meet 7 & 10 day KPIs, the oncology Multidisciplinary Team needs to be realistic with regard to turnaround times.

Furthermore, improvement in interdepartmental communication would lead to a better patient care.