An evaluation of the implementation of rapid access for MR-guided pancreas SABR

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Background/purpose

In the UK, only 10% of unresectable pancreas cancer patients receive active treatment [1]. This low percentage reflects not only the aggressive nature of the disease but also the limitations in treatment options available for advanced cases. The current target in the NHS is 31 days from the decision to treat to starting treatment [2] (see fig. 1). Stereotactic ablative radiotherapy (SABR) contributes to improved local control and can delay symptomatic deterioration [3] but is complex and time-consuming to plan. Symptomatic deterioration while waiting for treatment can limit treatment options [4] and worsen prognosis [5].

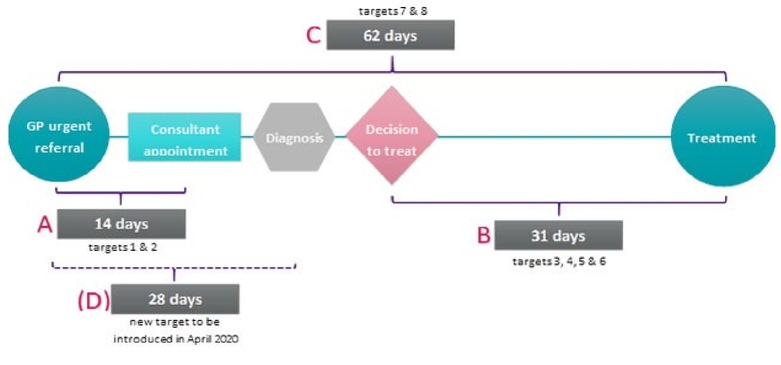

Figure 1*. UK guidance for referral to starting radiotherapy time frame.*

Aim*: To create a shorter pathway from referral to treatment for MR-guided pancreas SABR patients.*

Materials and methods

A retrospective review to see if the initial 15 patients who completed the rapid access intervention achieved patient pathway targets. The timings were compared to the previous 15 pancreas RT patients to assess the waiting time reduction from the intervention.

We designed and aimed to deliver a rapid-access pathway for MR-guided pancreas SABR entailing 3 working days from referral to simulation (REF_SIM), 4 working-days from simulation to treatment (SIM_TRT) and an overall target of 7 working from referral to first fraction (REF_TRT). Working-days were defined as Monday to Friday. Radiology and clinical oncology peer review are a mandatory part of all our MR-linac pathways to help with localisation and to aid planning (see fig. 2).

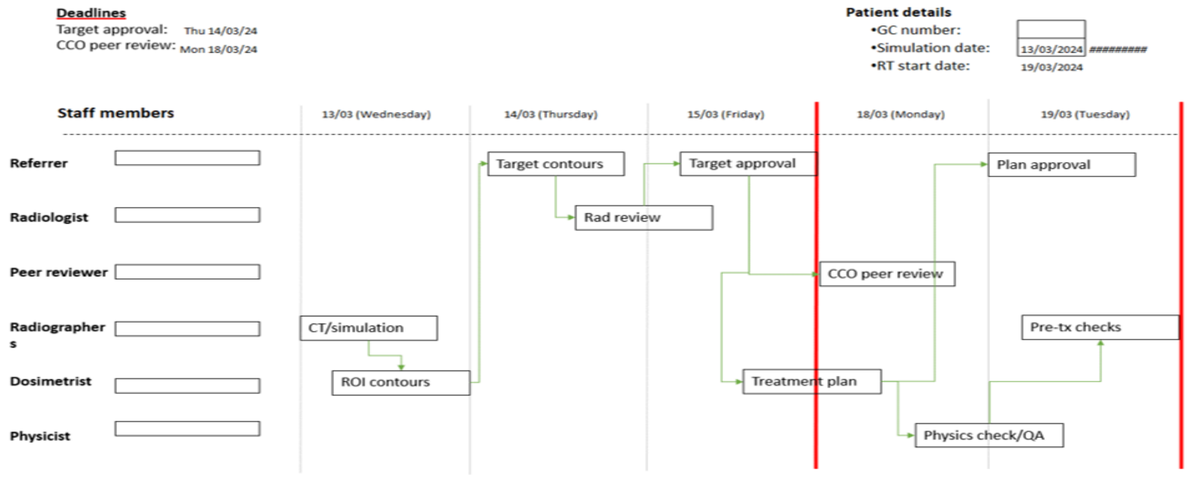

Figure 2*. From planning simulation to treatment, targets for a 5 day pathway.*

Results/Discussion

REF_SIM, SIM_TRT and REF_TRT targets were achieved in 7/15 (47%), 2/15 (13%) and 4/15 (27%) of patients respectively. Fig 3. shows a comparison of before and after the RAP intervention showing reductions in the pathway time. Following the intervention, the median overall pathway (REF_TRT) was 9 working-days, which was a 10 working-days reduction from prior to the intervention. The minimum and maximum REF_TRT pathway were 4 and 14 working-days respectively. Compared to minimum and maximum of 13 and 34 working-days respectively prior to the intervention. Fig 4. gives a breakdown of the reasons for delays. The initial 2 patients of the intervention aimed at a 10-working day pathway to assess what was achievable. The reduced planning pathway was achievable, and no patients were delayed for this reason. However, the remaining reasons were mostly due to machine capacity, where further work is required to improve access for these patients.

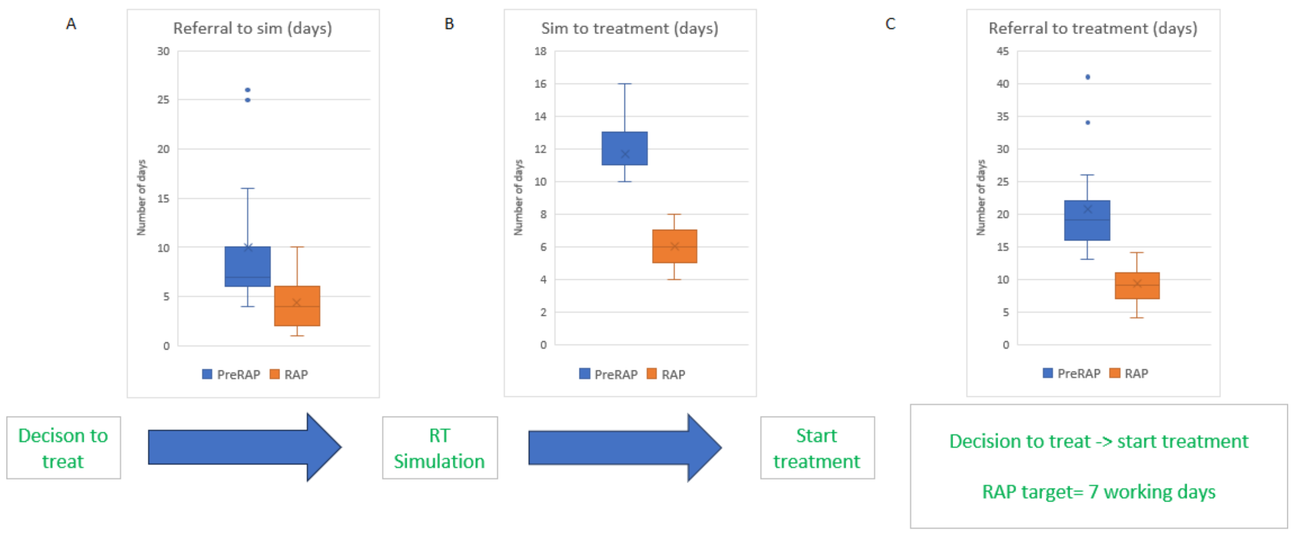

Figure 3*. pathway times before and after the RAP intervention.*
A = REF_SIM, B = SIM_TRT, C = REF_TRT

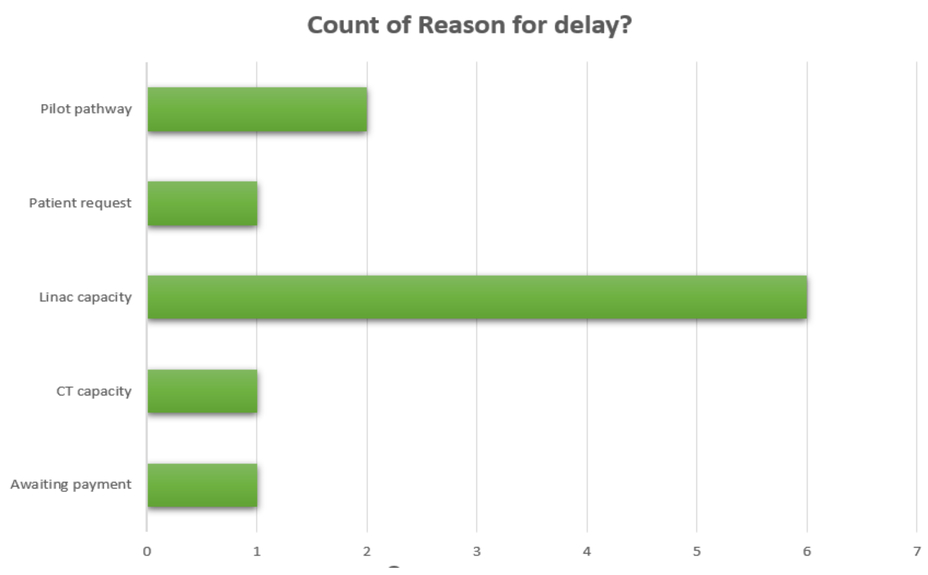

Figure 4*. Reasons for not achieving RAP pathway targets.*

Conclusion

The rapid access intervention pathway target achieved the least was SIM_TRT (13%). This was mostly due to machine capacity, impacting 7 patients. Also, the complexity in maintaining a gold standard pre-RT pathway (Fig1.) through MRgRT SABR required a minimum of 7 clinical staff members including 2 consultant oncologists and a consultant radiologist. The rapid access intervention resulted in a large reduction in waiting times for pancreas Ca patients.

References

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