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Chart Rounds in the Digital Age: A Survey of North American Institutions

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Purpose/Objective(s)

In light of public concerns regarding the quality of radiation treatment delivery, we surveyed the utilization of "chart rounds" or peer-review quality assurance meetings, within North American academic institutions.

Material/Methods

An anonymous web-based survey of chief residents (US) and residency program directors (Canada) was performed. Questions were designed to assess patient volume, treatment complexity and general chart round practices.

Results

Fifty-nine of 91 (65%) responded (US, n=57; Canada, n=2). Over 80% of institutions review all external beam treatments. Rates were much lower for other modalities (radiosurgery 60%; brachytherapy 50%). Notably, 42% of institutions never review prostate brachytherapy cases, while 31% never review gynecologic brachytherapy cases. Patient history, chart documentation and dose prescription were reviewed in >79% institutions, while the finer details of dosimetry (beams, wedges), isodose coverage, IMRT constraints, dose-volume histograms were reviewed only in 62%, 59%, 40% and 50% of cases respectively. Conebeam images were never reviewed in 51% of institutions. The median number of patients on treatment at any one time was between 100-125. Fifty-eight percent (58%) of responding institutions hold chart-rounds for less than 2 hours per week. The median amount of time spent per patient was 3.4 minutes (range 0.7-12). To provide a context in which quality assurance practices could be analyzed, we ascertained the range of highly complex treatments available at each institution, such as SBRT or pelvic IMRT. The median number of highly complex-techniques available was 8 (out of a max 9). No correlation was found between the complexity of techniques used and the time spent per patient for QA purposes. Chart-rounds led to both minor and major treatment changes. Sixty-five percent (65%) of institutions report that minor alterations (defined as a small MLC change/re-port-film) after chart-rounds were made to less than 10% of treatment plans, while 32% report minor changes to 10 - 30% of treatment plans. Seventy-five percent (75%) of institutions report that less than 10% of treatment plans require a major alteration (change to dose prescription or re-plan with dosimetry), while 11% report major changes to 10 - 30% of treatment plans. Fourteen percent (14%) of institutions never make major treatment plan alterations, while 2% never make minor alterations.

Conclusion

The practice of QA chart-rounds appears inconsistent among North American academic institutions. Despite the fact that chart rounds seldom review the full range of critical data available since the advent of 3D planning, changes are nonetheless frequently made. Brachytherapy and radiosurgical procedures are rarely reviewed. The potential effect of a more thorough QA review on patient outcomes is not known, but may be an increasing area of government and medical-legal scrutiny.