Validation of a Software Based Clinical Decision Support System for Breast Cancer Treatments in a Tertiary Care Cancer Center in India

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Access to Evidence Based Expert Decisions = Maximize Outcomes

Introduction

Access to evidence based clinical decision making is crucial in maximizing the outcome of women with breast cancer, but is a scarce resource, especially in developing countries. The Navya Expert System is a patented, software based clinical decision support system that exhaustively searches and assimilates relevant medical literature and guidelines to make specific therapeutic recommendations for individual patients based on their clinical data. This study is a retrospective validation of Navya Expert System's output against tumor board decisions of a multidisciplinary group of expert breast cancer clinicians working in a tertiary care oncology center in India.

Methods

1. Retrospective study comparing Navya Expert System decisions to tumor board decisions
2. Non-metastatic breast cancer cases with therapeutic complexities, such as two or more options
3. Clinical and pathological data abstracted per Navya's critical decision criteria
4. Data processed through Navya's automated, patented Evidence Engine and Guidelines Engine
5. Navya treatment decisions classified as follows:
   - Navya decisions compared to tumor board decisions, adjudicated by experts
   - Navya decisions compared to tumor board decisions, not adjudicated by experts

Results

• 76 non-metastatic breast cancer patients
• 224 major decisions
• 224 minor decisions
Only three Navya decisions discordant with expert clinical practice

Conclusions

1. Commonly available clinical data
2. Navya decisions are concordant with expert clinical practice i.e., concordant with the tumor board and experts at a tertiary care cancer center
3. Navya Expert System can increase global access to evidence based expert treatment decisions

Why Navya?

• Expert Decisions
• Quick
• Accurate
• Easy
• Scale

What’s Next?

• Patient Preference
• Experience Engine

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