

Meeting Abstracts

Feasibility of monitoring of body temperature for patients undergoing stem cell transplant or intensive chemotherapy.

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Symptom Management/Supportive Care/Palliative Care

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Patient and Survivor Care

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Abstract Disclosures

Abstract:

Background: Early detection of fever and prompt use of broad-spectrum antibiotics is crucial in neutropenic patients (pts). Episodic monitoring of temperature serves as standard-of-care (SOC) method in inpatient settings may suffer from delay in fever detection, whereas self-reported fever can be less reliable in the outpatient setting. Therefore, a continuous real time method of body temperature measurement may serve as a clinical decision support tool to improve outcomes. In this study, we proposed to test a device that continuously monitors body temperature.

Methods: Pts admitted for stem cell transplant or high dose chemotherapy for leukemia were included. Body temperature was measured every 4 hours as SOC throughout hospital stay. Temperature Rise (TR) was defined as spikes above 100.4 °F. We used TempTraq patch (Blue Spark, Ohio), a FDA class II device, to monitor body temperature in real time. It transmits the data to a receiver (iPad or Smartphone) via Bluetooth to display body temperature data with the ability to set alerts. A questionnaire was designed to capture patient's adherence, compliance and satisfaction. **Results:** The patches were applied every 24 hours on 10 pts throughout hospital stay. Body temperature was recorded remotely with 10 minutes intervals (14, 342 temperature measurements). There were 23 episodes of TR among all pts by SOC method, 21 of them were detected by the patch with a median of 140.1 minutes (range: 30-180 minutes) sooner than SOC. The patch data was successfully transmitted and displayed on the study iPad invariably. Ten out of 10 pts were able to wear the patch daily through hospital admission and felt the patch was easy to apply. Nine out of 10 pts felt the patch was comfortable and did not irritate their skin. Eight out of 10 pts were interested in wearing the patch for temperature monitoring in future. Eight out of 10 pts were completely satisfied with the patch. **Conclusions:** Our data suggest that real time body temperature measurement by the patch sensor used in this study is feasible and convenient. Also, it is able to detect the rise in temperature earlier in majority of cases. Further studies to assess reliability of this device in outpatient setting are warranted.

Publication-only abstracts (abstract number preceded by an "e"), published in conjunction with the 2017 ASCO Annual Meeting **but not presented at the Meeting**, can be found online only.