2011 Best Paper

Andrew Dawson

NSW Poisons Information Centre
Royal Prince Alfred Hospital
SACTRC

www.wikitox.org
The good old days
bad drugs
with good intermediate predictors
Now days...better drugs with poor intermediate predictors
"not all QT prolongation is equal"
BRIEF COMMUNICATION

Digital Holter measurement of QT prolongation in ziprasidone overdose

INGRID BERLING¹, GEOFFREY K. ISBISTER¹,², LEONIE CALVER², and SALLY CLUNAS²

¹Department of Clinical Toxicology and Pharmacology, Calvary Mater Newcastle, Newcastle, Australia
²Discipline of Clinical Pharmacology, University of Newcastle, Newcastle, Australia
Isbister Reading List


6-h post overdose,
sinus bradycardia
QT of 540 msec as measured manually.
Risk assessment for prolonged QT

QT Interval Nomogram

QT interval (msec)

Heart Rate (bpm)
Drug-induced QT prolongation and torsades de pointes: evaluation of a QT nomogram

A. CHAN¹, G.K. ISBISTER¹,², C.M.J. KIRKPATRICK¹ and S.B. DUFFUL¹,³

- to evaluate the performance of the Fossa diagram at assessing the risk of a prolonged QT.
## Sensitivity and Specificity

<table>
<thead>
<tr>
<th></th>
<th>QT Nomogram</th>
<th>QT Nomogram (Nil HR&gt;104)</th>
<th>QTc &gt;440</th>
<th>QTc &gt;500</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sensitivity</strong></td>
<td>96.9%</td>
<td>98.3%</td>
<td>98.5%</td>
<td>93.8%</td>
</tr>
<tr>
<td><strong>Specificity</strong></td>
<td>98.7%</td>
<td>99.3%</td>
<td>66.7%</td>
<td>97.2%</td>
</tr>
</tbody>
</table>
What specifically did I learn

- Measure manually
  - 3 limb leads
    - (I, II, and one other)
  - 3 Chest leads
    - V2, V4, and V6
- Use QT not QTc
How has it changed my practice?

• Altered my risk assessment tool

• Altered how I review papers

• Impacted on my teaching
BRIEF COMMUNICATION

Digital Holter measurement of QT prolongation in ziprasidone overdose

INGRID BERLING1, GEOFFREY K. ISBISTER1,2, LEONIE CALVER2, and SALLY CLUNAS2

1Department of Clinical Toxicology and Pharmacology, Calvary Mater Newcastle, Newcastle, Australia
2Discipline of Clinical Pharmacology, University of Newcastle, Newcastle, Australia
Quetiapine Overdose

QT Interval Nomogram

QT interval (msec) vs. Heart Rate (bpm)
Amisulpride

Heart Rate (bpm)

QT interval (msec)

X TdP cases