ECG Screening of Drug Service Clients

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Aims of the audit & criteria for selection

The overall aim was to address the current Department of Health Drug misuse and drug and Dependence UK guidelines on clinical management (DoH2007) by:

- Identifying those clients at risk of Tdp.
- Screening those clients by referring them for an ECG.
- Reducing and/ eliminating precipitating factors.
- Improving education of MDC within Wirral drug service.
TORSADES DE POINTES (Tdp)

Etymology: Fr, torsader, to twist together, pointes, tips

A type of ventricular tachycardia with a spiral-like appearance ("twisting of the points") and complexes that at first look positive and then negative on an electrocardiogram. It is precipitated by a long Q-T interval, which often is induced by drugs (quinidine, procainamide, or disopyramide) but which may be the result of hypokalemia, hypomagnesemia, or profound bradycardia.

### Drugs Known to Cause QT Prolongation

<table>
<thead>
<tr>
<th>Drug</th>
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<tbody>
<tr>
<td>Amiodarone</td>
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<tr>
<td>Chloroquine</td>
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<tr>
<td>Clarithromycin</td>
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<tr>
<td>Erythromycin</td>
</tr>
<tr>
<td>Haloperidol</td>
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<tr>
<td>Lithium</td>
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<tr>
<td>Methadone</td>
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<tr>
<td>Sotalol</td>
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<tr>
<td>Terfenadine</td>
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<tr>
<td>Venlafaxine</td>
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<tr>
<td>Grapefruit Juice</td>
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</tbody>
</table>

**Table Showing:** Examples of drugs known to cause QT prolongation

\[
\text{\( \text{QT}_c = \sqrt{\frac{\text{QT}}{RR}} \)}
\]

**Figure:** QT interval measurement.
Inclusion Criteria

• Individuals on high dose methadone, more than 100mgs daily.

• Females with a slow pulse.

• Prolonged excessive alcohol or cocaine use.

• Individuals prescribed methadone and other risk factors.
Abnormal ECGs detected through screening at risk clients.

- No. of clients referred: 60
- No. of clients screened: 42
- Abnormal ECG: 13
- Normal ECG: 29

The chart shows the number of clients referred and screened, with a breakdown of abnormal and normal ECGs.
Percentage of clients whose ECGs were found to be abnormal.

Abnormal ECG Results included:
- QT prolongation
- Incomplete RBBB
- Borderline LVH
- T wave inversion V2 – V5
- Q waves V1 – V2/3
- Marked LV
- 1st degree heart block and sinus bradycardia
- Q waves in III & AVF. Possible inf. M.I.
- Non specific T wave, flattening V4 – V6
- Non specific ST changes
- QT prolongation partial RBBB
- Borderline ST elevation CHD, MI.
Considerations

• Advantages to screening – all abnormal ECGs are followed up.
• Concern re: age range and extent of cardiac abnormality.
• Ageing population and unhealthy lifestyles (not just illicit drug use);
  ❖ Opiates (smoke injected)
  ❖ Poor nutrition
  ❖ Smoking (tobacco/crack cocaine)
  ❖ Alcohol
• Screening could be seen as extending harm reduction interventions / identifies early ill health and encourages behaviour change.
Thank You