Methotrexate Never Event
Presentation Date November 2015

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Medicines Information & Clinical Economy
Methotrexate Never Event

- Risk Description & Patient Outcome
- Never Event
- Chronology
- Root Cause
- Demonstration of JAC EPMA Prescription Modification
- JAC EPMA re-configuration
- Lessons Learned & Recommendations
- Sharing the Learning
Risk Description

• JAC EPMA system configuration error resulting in methotrexate once weekly dose being administered inadvertently twice in one week

• Level of patient harm; Low

• Patient followed-up by Consultant Haematologist (out-patient appointment)
Never Event

Overdose of methotrexate for non-cancer patients

• Overdose refers to
  □ When a patient receives methotrexate, via any route, for non-cancer treatment which results in more than the intended weekly dose being taken, despite the care setting having an electronic prescribing and administration system, or in primary care an electronic prescribing and dispensing system, in place.

• Setting: All patients receiving NHS funded care.
• Guidance:
### Chronology

<table>
<thead>
<tr>
<th>Date &amp; Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>13/08/2015</td>
<td>Patient admitted to Stroke Unit DCHFT with a left parietal infarct. Methotrexate 7.5mg PO once weekly prescribed correctly by the medical team.</td>
</tr>
<tr>
<td>14/08/2015 14:35</td>
<td>Medicines Reconciliation Completed within 24 hours by pharmacy team. Methotrexate 7.5mg PO once weekly on Mondays and folic acid 5mg PO OM six days per week confirmed by pharmacy team.</td>
</tr>
<tr>
<td>14/08/2015 15:35</td>
<td>Pharmacist added EPMA note for methotrexate to appear on charting for nursing staff – “Cytotoxic Mondays only”.</td>
</tr>
<tr>
<td>14/08/2015 15:35</td>
<td>Pharmacist added EPMA note for folic acid to appear on charting for nursing staff – “Not to have on days of methotrexate”.</td>
</tr>
<tr>
<td>24/08/2015 16:55</td>
<td>Pharmacist documented in EPMA: “This patient was given folic acid today, which is their methotrexate day. It was stated in the admin notes NOT to give folic acid on same day as methotrexate”. Methotrexate day amended by pharmacist from Monday 24/08/2015 to Tuesday 25/08/2015 with note to withhold folic acid on Tuesday 25/08/2015.</td>
</tr>
<tr>
<td>25/08/2015</td>
<td>Methotrexate 7.5mg PO once weekly administered correctly and folic acid correctly withheld.</td>
</tr>
<tr>
<td>Date &amp; Time</td>
<td>Event</td>
</tr>
<tr>
<td>-------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>27/08/2015</td>
<td>The patient informed the pharmacist that they were taking the methotrexate weekly dosage in the evening rather than the morning prior to admission. The pharmacist modified the methotrexate prescription from the morning administration time on Tuesday 1st September to the evening.</td>
</tr>
<tr>
<td>27/08/2015</td>
<td>Methotrexate 7.5mg PO administered by nurse (second dose in the same week)</td>
</tr>
<tr>
<td>03/09/2015</td>
<td>Methotrexate error identified by SHO and pharmacist informed</td>
</tr>
<tr>
<td>03/09/2015</td>
<td>Methotrexate stopped and bloods checked</td>
</tr>
<tr>
<td>03/09/2015</td>
<td>Pharmacist informed the patient of the error and apologised to the patient</td>
</tr>
<tr>
<td>03/09/2015</td>
<td>On line risk event form completed by the Pharmacist</td>
</tr>
</tbody>
</table>
Root Cause

- The incident was associated with a system configuration error within JAC EPMA
Drug Description: Methotrexate 2.5mg Tablets

Route: Oral

Dose & Description: 7.5 mg

Frequency: OW@7AM - ONCE a WEEK at 7am (on same day each week)

Start Medication on: 17-Nov-2015 Time: 07:00
**Methotrexate 2.5mg Tablets**

- **Dose:** 7.5 mg
- **Route:** SWAP@7AM - ONCE a WE Oral
- **Start Date/Time:** 17-Nov-2016 07:00
- **Status:** Regular Medications

**Allergies:** "No Known Drug Allergies"
Modify Medication Order for JEMIMA PUDDLEDUCK (D410872)

**Patient Information**
- Height: 160 cm
- Weight: 74.00 kg
- BSA: 1.77 sq m
- Age: 85 yrs

**Medication Details**
- **Drug Description**: Methotrexate 2.5mg Tablets
- **Route**: Oral
- **Start Date/Time**: 17-Nov-2015 07:00

**Dose & Description**
- **Dose**: 7.5 mg

**Alternative Dose & Description**
- **Alternative Dose**: 3 Tablet

**Frequency**
- **Frequency**: TW@8PM - ONCE a WEEK at 8pm

**Other Information**
- **PRN**: No
- **Notes**: None
- **Change medication at Date/Time**: 17-Nov-2015 07:00

**Administration**
- Every 7 days.
- Administer at: 20:00

**Options**
- Admitted on drug
- Own Medication
- Self Administer
<table>
<thead>
<tr>
<th>Active Medications</th>
<th>Discontinued Medications</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Status</strong></td>
<td><strong>Drug Name</strong></td>
</tr>
<tr>
<td>Regular Medications</td>
<td>Methotrexate 2.5mg Tablets</td>
</tr>
</tbody>
</table>
Re-configuration
Re-configuration
Re-configuration
Re-configuration
Re-configuration
Re-configuration
Opportunities for Prevention

- Pharmacist review of prescription following modification
- Nurse checking of previous dose for weekly doses
- Working with JAC to mitigate risk re-occurring at other Trusts
Share the learning

• Escalation to JAC EPMA
• Escalation to MSO network
• Sharing at the NHS England EPMA WebEx event
• Instalment of high alert flags with V2014 upgrade
• Reconfiguration of JAC EPMA
• Pharmacy training & Duty of Candour
• Publish Safe Medication Practice Bulletin
• Trust meetings: F1 training, Sister’s and Matrons
### Methotrexate Awareness

Methotrexate is a high risk medication. Errors can be fatal. Prescribe & administer ONCE weekly. There may be exceptions for cancer regimens.

#### Prescriber Action
- ✅ Check patient-held booklet
- ✅ Clarify the usual dosage in mg
- ✅ Check administration route
- ✅ Check usual day of the week
- ✅ Check when last dose taken
- ✅ Check monitoring as required (FBC, LFTs, CRP, ESR, Creatinine)
- ✅ Prescribe ONCE weekly, never on same day as folic acid & follow the EPMA prescribing guidance (pharmacy intranet)

#### Nurse Action
- ✅ Check when dose last administered
- ✅ Omit and alert prescriber/pharmacist if less than 6 days ago
- ✅ Administer ONCE weekly, never on same day as folic acid

#### Pharmacy Action
- ✅ Check appropriateness of all methotrexate prescriptions
- ✅ Dispense in-patients with one week supply of 2.5mg strength tablets only
- ✅ Check all amendments and ensure treatment is ONCE weekly and safe

Seek advice from Senior Colleague or Medicines Information at any stage.
Thank you

Any Questions?