Abiraterone withdrawal syndrome in metastatic castration resistant prostate cancer

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# Case report

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Treatment</th>
<th>Result</th>
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</thead>
<tbody>
<tr>
<td>1995</td>
<td>Diagnosis of prostate adenocarcinoma (Gleason score 6:3+3), cT3 N0 M0 stage in a 59-yr-old man</td>
<td>External radical radiotherapy (76 Gy)</td>
<td>Complete response</td>
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<tr>
<td>1997</td>
<td>Biochemical failure</td>
<td>Oct 1997 - Dec 2008 Intermittent LHRH agonist therapy</td>
<td>Disease control</td>
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<tr>
<td>Dec 2008</td>
<td>Biochemical and radiographic (bone) PD</td>
<td>Dec 2008 - Aug 2009 Bicalutamide</td>
<td>Transient biochemical response</td>
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<tr>
<td>Aug 2009</td>
<td>Biochemical and radiographic PD</td>
<td>Antiandrogen withdrawal</td>
<td>No response</td>
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<tr>
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<td>Event</td>
<td>Treatment</td>
<td>Result</td>
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<tr>
<td>Dec 2009</td>
<td>Biochemical and radiographic PD</td>
<td>Dec 2009 – Jan 2011 LHRH agonist therapy</td>
<td>Mild disease control</td>
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<tr>
<td>Feb 2011</td>
<td>Biochemical and radiographic PD</td>
<td>Feb 2011 - Apr 2011 Weekly Docetaxel chemotherapy for 3 courses</td>
<td>Short lasting response</td>
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<td>Jul 2012</td>
<td>Biochemical (PSA 179 ng/mL) and radiographic PD (new bone and nodal lesions on choline PET/CT)</td>
<td>Abiraterone 1000 mg/die + prednisone 5 mgx2/die + ongoing LHRH agonist therapy</td>
<td>Good and long-lasting disease control</td>
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</table>
**Oct 2012** Biochemical (PSA 192 ng/mL) and radiographic (mixed metabolic response, SUV increased in some lesions, decreased in others) PD → **Abiraterone and concomitant prednisone withdrawal**

Progressive reduction of PSA value: 62 ng/mL (**Nov 2012**) and 16 ng/mL (**Feb 2013**)

**Feb 2013** Choline PET/CT: bone and nodal SD with good metabolic response (SUV -35%)

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**Aug 2012 AA start**

**Oct 2012 AA stop**

**Feb 2013 AA withdrawal**
PSA

AA restart

AA withdrawal

AA stop

Months

Jul 2013
AA restart

Oct 2013
AA stop

Feb 2014
AA withdrawal

Jul 2014
AA restart
Conclusions

- Abiraterone withdrawal represents a new clinical condition but it needs to be further investigated (few cases in literature, reported in last 2 yrs)

- Clinical features similar to antiandrogen withdrawal

- Possible transient biochemical response and/or clinical/radiological improvements that are very important in the therapeutic strategy

- Molecular mechanisms are still poorly understood (effects on AR pathway?)

- Abiraterone withdrawal may become more frequent with the use of the drug in chemotherapy-naïve patients

- Abiterone qualifies uniquely for effective intermittent androgen deprivation of CRPC
Thank you for your attention!

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