

EXHIBIT 27

Unknown

From: Geller, Wayne
Sent: Wednesday, December 05, 2001 1:01 PM
To: Patridge, Melissa
Subject: RE: Metabolic issues

Thanks a lot Melissa

-----Original Message-----

From: Patridge, Melissa
Sent: Wednesday, December 05, 2001 12:46 PM
To: Geller, Wayne
Subject: RE: Metabolic issues

On December 4, 2001 a search was performed on ClinTrace for cumulative Seroquel reports of HLTs Diabetes mellitus (all forms) and Hyperglycaemic conditions NEC.

A total of 47 reports were noted. The earliest Sponsored study report was initially reported on April 5, 1994. There were eight reports including concomitant disease of diabetes. Of these, five reports were from spontaneous reporters, three were from sponsored studies and one was a literature report.

There were 39 reports that did not include reference to history of diabetes. Of these, eight were from sponsored studies, four from literature and the remaining were spontaneous reports.

-----Original Message-----

From: Geller, Wayne
Sent: Tuesday, December 04, 2001 1:48 PM
To: Patridge, Melissa
Subject: RE: Metabolic issues

M,

From the beginning of history through November 30, 2001 please.

Thanks,
Wayne

-----Original Message-----

From: Patridge, Melissa
Sent: Tuesday, December 04, 2001 12:18 PM
To: Geller, Wayne
Subject: RE: Metabolic issues

Please clarify timeframes.

Marketed September 1997 and Clinical (date of first report)?

-----Original Message-----

From: Geller, Wayne
Sent: Tuesday, December 04, 2001 9:02 AM
To: Patridge, Melissa
Subject: FW: Metabolic issues

M.

Please do a BO search for the number of reports of Diabetes or hyperglycemia and provide me with just a number. Include both clinical and postmarketing timeframes.

Thanks,
Wayne

-----Original Message-----

From: Olbrich, Richard
Sent: Tuesday, December 04, 2001 3:35 AM
To: Hagger, Simon; 'carole.nadin@btinternet.com'; Geller, Wayne
Cc: Aked, Dominic M; Owen, Richard T; Ney, Christine A; Brecher, Martin; Lapp, Carrie
Subject: RE: Metabolic issues

Simon I agree with Wayne's proposal.

Wayne I'd like to be able to revise DOF 89 accordingly. Once you get the information from Carrie could you please let me know and send me DOF 89 with your suggested revisions.

Kind regards Richard

Richard Olbrich PhD
Medical Affairs Manager- Seroquel
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-----Original Message-----

From: Hagger, Simon
Sent: Monday, 03 December, 2001 21:12
To: Olbrich, Richard; 'carole.nadin@btinternet.com'
Subject: FW: Metabolic issues

Hi both,
What do you think to Waynes suggestion below as a way forward? I'm happy with it if it can be worked out and done this way.
Thx
Simon

-----Original Message-----

From: Geller, Wayne
Sent: Monday, December 03, 2001 3:38 PM
To: Hagger, Simon
Subject: RE: Metabolic issues

Dear Simon,

My preference would be to provide incidence rates derived from comparative clinical trial data where the numerator and denominator are both known, and not estimates. If this is not possible, I would propose something similar to what Dom is proposing below, except it is important to understand that we are calculating a reporting rate which is far less accurate than (and can not be used in comparison to) a true incidence rate. Instead of providing reporting rates in absolute numbers, I would suggest using something similar to the CIOMS definitions:

Kind regards,
Wayne

-----Original Message-----

From: Hagger, Simon
Sent: Monday, December 03, 2001 3:09 PM
To: Geller, Wayne
Subject: FW: Metabolic issues

Hi Wayne,
please see Dominic Aked's response to my question over the metabolic data issue. Do either of the approaches seem a reasonable compromise? I'd appreciate your thoughts.
Kind regards
Simon

-----Original Message-----

From: Aked, Dominic M
Sent: Thursday, November 29, 2001 5:28 AM
To: Hagger, Simon; Bowen, Rebecca
Cc: Owen, Richard T
Subject: RE: Metabolic issues

Hi Simon

I agree that presenting absolute figures will cause problems as they will need to be constantly updated.

We could consider presenting an estimate of the incidence, based on projected usage from sales. This might say something like.....

Post-marketing surveillance suggests the incidence of ??? glucose dyregulation associated with Seroquel is rare/infrequent (less than 0.??1%)

We would need to make assumptions about patient usage

Alternatively, we could stay with the data from placebo controlled trials.

Wayne's input is essential

Kind regards

Dom

-----Original Message-----

From: Hagger, Simon

Sent: Tuesday, 27 November, 2001 20:05
To: Aked, Dominic M; Bowen, Rebecca
Subject: FW: Metabolic issues

Dear Rebecca and Dom,

Please can you comment on the attached message from Wayne Geller concerning updating a DOF on metabolic issues from which we took data from post-marketing data from the FDA. How do you feel we should proceed bearing in mind Waynes comments? I would suggest we look at the impact of the DOF with this data removed.

Regards
Simon

-----Original Message-----

From: Geller, Wayne
Sent: Monday, November 26, 2001 11:13 AM
To: Olbrich, Richard; Hagger, Simon
Cc: Owen, Richard T
Subject: RE: Metabolic issues

Dear Richard and Simon,

The November 2000 discussion document on glucose dysregulation included the following numbers of events based on a data cut-off of October 2000:

"A search was conducted for all cases in which diabetes mellitus, hyperglycemia, diabetic ketoacidosis, and non-ketotic hyperosmolar coma were reported with SEROQUEL. The following are narratives for these 28 cases".

The numbers provided here are out of date as there have been additional reports of DM and related maladies that have been received since October 2000. In addition, there has been considerable discussion of this in the literature. Caution should always be exercised in presenting any number of postmarketing adverse events as the number will increase over time and the number of events is likely to not represent the true number of events of that type due to underreporting and other biases. I am not keen on sharing numbers of postmarketing events and would suggest that you not do so either.

Kind regards,
Wayne

-----Original Message-----

From: Carole Nadin [mailto:carole.nadin@btinternet.com]
Sent: Thursday, November 22, 2001 12:01 PM
To: Olbrich, Richard; Hagger, Simon; Geller, Wayne
Cc: rob.kite@cmc.co.uk; X:Patefield, Iain (External)
Subject: Re: Metabolic issues

Attached.
Carole

----- Original Message -----

From: "Olbrich, Richard" <Richard.Olbrich@astrazeneca.com>
To: "'Carole Nadin'" <carole.nadin@btinternet.com>; "Hagger, Simon" <Simon.Hagger@astrazeneca.com>; "Geller, Wayne" <Wayne.Geller@astrazeneca.com>
Cc: <rob.kite@cmc.co.uk>; "X:Patefield, Iain (External)" <Iain.Patefield@CMC-international.com>
Sent: Thursday, November 22, 2001 3:34 PM
Subject: RE: Metabolic issues

Carole many thanks for your comments. Please resend the attachment as I've not received it. Wayne could you please comment on this. I enclose DOF 89 for your reference.

Kind regards Richard
Richard Olbrich PhD
Medical Affairs Manager- Seroquel
PS&L
AstraZeneca
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United Kingdom
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Email richard.olbrich@astrazeneca.com

-----Original Message-----

From: Carole Nadin [mailto:carole.nadin@btinternet.com]
Sent: Wednesday, 21 November, 2001 16:17
To: Olbrich, Richard; Hagger, Simon
Cc: rob.kite@cmc.co.uk; X:Patefield, Iain (External)
Subject: Re: Metabolic issues

Dear Richard and Simon

This would be quite a significant change to the DoF and to the slides, as it more than doubles the number of spontaneous reports of diabetes. Would you mind double-checking it, please, before we change the slides and the DoF? The source of the data in DoF 89 was page 26 of the FDA response document (dated August 2000), which stated that there had been 12 reports of diabetes mellitus up to May 2000. This document was presumably quite thoroughly data-checked, and is also dated later than the presentation that Wayne Geller refers to (June 2000). As he said he did not know the source of the 12 cases figure, I attach a copy of the source document.

Could you ask him to confirm that the 12 cases figure is definitely wrong, please, and that it should definitely be replaced with his figure of 27 cases? Is it possible that there could be some difference in definition between the figure of 12 cases in the FDA document and the figure of 27 cases from Wayne Geller?

If it is confirmed that the figure in the DoF should be changed, could you also send me the relevant analysis that is the source of the 27 cases figure, please? Chip will need to sign off again, so I will need to tell him in the covering note what has changed and why.

Regards

Carole

----- Original Message -----

From: "Olbrich, Richard" <Richard.Olbrich@astrazeneca.com>
To: "Geller, Wayne" <Wayne.Geller@astrazeneca.com>;
<carole.nadin@btinternet.com>
Cc: "Owen, Richard T" <Richard.Owen@astrazeneca.com>; "Brecher, Martin"
<martin.brecher@astrazeneca.com>; "Ney, Christine A"
<christine.ney@astrazeneca.com>; "Rice, Moira M"
<Moira.Rice@astrazeneca.com>; "Hagger, Simon"
<Simon.Hagger@astrazeneca.com>; "Swalley, Jeffrey S"
<jeffrey.swalley@astrazeneca.com>; "Stening, Göran K"
<Goran.K.Stening@astrazeneca.com>; "Sayce, Rod" <Rod.Sayce@astrazeneca.com>;
"Dev, Vikram J" <vikram.dev@astrazeneca.com>; "Aked, Dominic M"

<Dominic.Aked@astrazeneca.com>
Sent: Tuesday, November 20, 2001 4:49 PM
Subject: RE: Metabolic issues

Wayne thanks for pointing this out.

Carole could you please amend DOF 89 to state 27 cases as opposed to 12 and also update the weight slide kit which also contains this incorrect information.

Kind regards Richard
Richard Olbrich PhD
Medical Affairs Manager- Seroquel
PS&L
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Email richard.olbrich@astrazeneca.com

> -----Original Message-----
> From: Geller, Wayne
> Sent: Tuesday, 20 November, 2001 16:23
> To: Olbrich, Richard
> Cc: Owen, Richard T; Brecher, Martin; Ney, Christine A; Rice, Moira M;
> Hagger, Simon; Swalley, Jeffrey S; Stening, Göran K; Sayce, Rod; Dev,
> Vikram J
> Subject: RE: Metabolic issues
>
> Dear Richard et al,
>
> In response to your question below, I have not had an in depth look at
> either DM or hyperlipidemia recently. We have been tied-up with other
> issues and intend to have another look at these issues when we are able to
> do so. I do have a comment about the following statement which appears
> below (in this e-mail):
>
> Seroquel - extremely low incidence of diabetes
> mellitus
> (post-marketing data)
> * Approximately 623 000 patients received Seroquel between launch in
> the US (1997) and May 2000
> * Only 12 cases of diabetes mellitus reported
>
>
> This figure (12 reports of DM) is incorrect, and I don't know the source
> of this data. DM was presented at SERM in June 2000 with a data cut-off
> of May 2000. Through that time, there were 27 reports of diabetes
> mellitus and 2 reports of hyperglycemia received by AstraZeneca.
>
> Kind regards,
> Wayne
> -----Original Message-----
> From: Olbrich, Richard
> Sent: Tuesday, November 20, 2001 4:18 AM
> To: Sayce, Rod
> Cc: Owen, Richard T; Brecher, Martin; Geller, Wayne; Ney,

> Christine A; Rice, Moira M; Hagger, Simon; Swalley, Jeffrey S; Stening,
> Göran K
> Subject: RE: Metabolic issues
>
> Rod thanks for the note. Just to clarify I presume that you are
> suggesting that we publish on 'metabolic issues' which includes diabetes,
> weight and lipids? . We'd be defining metabolic issues as diabetes, weight
> and lipids - Martin do you agree?
>
> I agree that we would approach Goran's team to ask for the analysis.
>
> However before we do this I'd like to be clear as to exactly what we
> would want to 'claim' from the publication as this will drive Goran's
> analysis: for example do we want to say:
>
> 1. Seroquel is not associated with diabetes or its exacerbation.
> 'A review of the controlled clinical trials and the post marketing
> safety data base resulted in no statistically significant adverse effects
> of Seroquel with insulin levels, blood glucose levels or the incidence of
> diabetes.' (similar to DOF 89 and the reg defence document).
>
> 2. Seroquel does not adversely affect cholesterol, LDL,
> triglycerides
> 'A review of the controlled clinical trials and the post marketing
> safety data base resulted in no statistically significant adverse effects
> of Seroquel on cholesterol, LDL and triglycerides.
>
> 3. Although it is widely accepted that the atypical
> antipsychotics have the same efficacy, Seroquel has the best tolerability.
> 'A review of the literature has shown widespread acknowledgment that
> the atypicals have similar efficacy. [I'm not sure how else we'd put this
> in the absence of direct head to head's with Seroquel] This paper has
> shown that Seroquel has an excellent tolerability profile, not only does
> it have placebo levels of EPS across the dose range, has no prolactin
> elevation and is weight neutral, but Seroquel has no metabolic issues*'
>
> *diabetes and lipids
>
> Wayne have you looked at diabetes and lipids?
> Martin would you like to add to the above?
>
>
> Kind regards Richard
> Richard Olbrich PhD
> Medical Affairs Manager- Seroquel
> PS&L
> AstraZeneca
> Alderley House Alderley Park
> Macclesfield Cheshire SK10 4TF
> United Kingdom
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> Fax: +44 (0) 1625 515682
> Email richard.olbrich@astrazeneca.com
>
>
> -----Original Message-----
> From: Sayce, Rod
> Sent: Monday, 19 November, 2001 21:06
> To: Olbrich, Richard
> Cc: Owen, Richard T
> Subject: RE: Metabolic issues
>

> Dear Richard,
>
> Thanks for this. I believe that we have enough material for
> a review of the diabetes issue alone, without all the other parameters.
> However, without going overboard I think we could make a case for a review
> of the metabolic parameters for quetiapine - separately, CMC have
> suggested a safety update looking at all adverse events.
>
> Are you aware of any analyses that we have done looking at
> lipids? I know we have material that CMC are preparing at the moment on
> prolactin. Are we doing too much if we include this?
>
> I guess the next step will be to ask Goran's team to provide
> us with additional analysis - or is that up to Russell Giddins to provide?
> I presume Wayne Geller will also need to be involved at some point? I will
> then forward the information to CMC to start producing an outline of what
> we might want.
>
> I think Lou Aronne would be good if we focus on the weight
> issue, but I would like to see a diabetologist involved - my first point
> of contact would be John Buse of Chapel Hill, North Carolina, or Julio
> Rosenstock (Dallas, Texas) to identify someone who might be interested in
> helping us with the manuscript. If we are going to include a lot of lipid
> data, we might want to go to a cardiologist as well REDACTED
> REDACTED
>
> Would appreciate your thoughts ...
>
> Thanks,
>
> Rod
>
> -----Original Message-----
> From: Olbrich, Richard
> Sent: Friday, November 16, 2001 10:29 AM
> To: Sayce, Rod
> Subject: RE: Metabolic issues
> Importance: High
>
> Rod yes I did receive it please find enclosed:
>
> << Message: FW: regulatory defence document for
> diabetes >>
>
> Kind regards Richard
> Richard Olbrich PhD
> Medical Affairs Manager- Seroquel
> PS&L
> AstraZeneca
> Alderley House Alderley Park
> Macclesfield Cheshire SK10 4TF
> United Kingdom
> Tel: +44 (0) 1625 515219
> Fax: +44 (0) 1625 515682
> Email richard.olbrich@astrazeneca.com
>
>
> -----Original Message-----
> From: Sayce, Rod
> Sent: Friday, 16 November, 2001 15:26
> To: Olbrich, Richard
> Cc: Owen, Richard T

- > senior writer to put it together and to put it towards the top of the todo
- > list. We will also probably want a OL on the paper. None of the
- > psychiatry OL's really know this area which is medical not psychiatric.
- > Wirshing has published, but he's not predictable. Suggest we get a
- > friendly endocrinologist or internist-perhaps Lou Aronne who was on the US
- > obesity ad board last December. We probably also need to get Adam
- > Richards on board too.
- > Martin

> -----Original Message-----

- > From: Aked, Dominic M
- > Sent: Friday, September 14, 2001 6:51 AM
- > To: Brecher, Martin; Rebecca Bowen (E-mail)
- > Cc: Oldham, Alex; Olbrich, Richard; Owen,
- > Richard T
- > Subject: Dom re: metabolic issues
- > Importance: High

> Hi Martin

> Some thoughts.

- > I strongly expect Janssen will drive this message in
- > their marketing activities, as it delivers clear differential advantage
- > over Zyprexa. We will need to counter this, as customers will want to
- > make a comparison amongst the atypicals.

- > The need to monitor blood glucose is also being
- > debated, which could greatly influence doctors' prescribing. *Kam*

- > Therefore, I agree addition communications (e.g.
- > publication as you suggest) would be helpful

- > The data/messages we have been working with to-date
- > are highlighted below. These data are as compelling as the Risperidal
- > data, and therefore it is hoped that the marketing companies are
- > responding to Janssen messages in the 'market place'. Perhaps we could
- > raise the awareness of the MCs on this subject, and ask the top 10 (?) MCs
- > what the situation is in their markets. These e-mails could form the basis
- > of a communication from one of the GBMs (Simon?).

- > We (the MAMs) will look at the regulatory defence
- > document to see if there is anything more we can use promotionally.

> Kind regards
> Dom

- > General information on diabetes
- > * In the general population, the NHIS 1994 diabetes rate was 1.2% for
- > persons aged 18-44 and 6.3% for persons aged 45-64
- > * In patients with schizophrenia, 9-14% have current treated diabetes

- > Seroquel - extremely low incidence of diabetes
- > mellitus

- > (post-marketing data)
- > * Approximately 623 000 patients received Seroquel between launch in
- > the US (1997) and May 2000
- > * Only 12 cases of diabetes mellitus reported

- > Seroquel - low incidence of adverse events possibly
- > related to changes in glucose metabolism

- >
- > << File: weight change new.ppt >> << File: Weight gain.doc >>
- > Seroquel is not associated with diabetes or its exacerbation
- >
- > << File: DoF AZ_S089.doc >>
- > Number and percentage of Seroquel-treated patients
- > in short-term controlled Phase II/III clinical trials with adverse events
- > possibly related to changes in glucose metabolism.
- > Seroquel N=1450 Placebo
- > N=206 Haloperidol N=279 Clorpromazine N=100
- > Diabetes melitus 0% 0%
- > 0% 0%
- >
- > Number and percentage of Seroquel-treated patients
- > in long-term controlled Phase II/III clinical trials with adverse events
- > possibly related to changes in glucose metabolism.
- > Seroquel n=260 Haloperidol
- > n=41
- > 0% 0%
- >
- >
- > Janssen are making the following claims:
- >
- > Incidence of diabetes <1%
- > Double blind trials Risperidal 0.0%
- > Placebo 0.0%
- > n=1838
- > n=195
- >
- > Double blind + Risperidal 0.2% N/A
- > open-label trials n=2607
- >
- > No need for serum glucose monitoring
- >
- >
- > Diabetes: a concern with selected newer antipsychotics
- > * Occurs with or without weight gain
- > * Occurs regardless of family history
- > * Up to 50% of people with type 2 diabetes are undiagnosed
- > * Short and long-term health complications from diabetes: skin infections; retinopathy/cataracts; cardiovascular disease; increased mortality risk
- > Evaluate diabetes risk of selected antipsychotics
- >
- > Adverse events reported since market introduction
- > that were temporally (but not necessarily) related to Risperidal therapy
- > include diabetes mellitus aggravated, including diabetisc ketoacidosis.
- >
- > -----Original Message-----
- > From: Brecher, Martin
- > Sent: 14 September 2001 03:39
- > To: Aked, Dominic M; Bowen, Rebecca
- > Cc: Oldham, Alex
- > Subject: metabolic issues
- >
- > << Message: Seroquel Pre-SERM Information >>
- > Dom, Rebecca,
- > 2 small streams of information have come my way.

- > First is an advertisement from a psych journal from Janssen claiming no
- > diabetes with risperidone. Second is a bibliography received yesterday
- > (attached) with includes abstracts of several articles characterizing small
- > patient samples in which clozapine and olanzapine had adverse effects on
- > cholesterol, LDL, triglycerides, insulin levels, blood glucose and the
- > incidence of diabetes. Quetiapine as best I can tell from the abstracts
- > comes off as a lesser offender. Risperidone is not linked to these
- > events. I therefore would like your views whether we should do a review
- > of our data designed to lead to a publication where we add no adverse
- > metabolic consequences to our preferred safety profile along with EPS,
- > prolactin weight and QT.
- > We have already submitted a regulatory defense
- > showing no effect of Seroquel on random blood glucose and no signal of new
- > diabetes or hyperglycemia.
- > Trials 41 (SR pivotal) and 43 (risperidone
- > comparator) measure fasting blood glucose and trial 43 also measures
- > fasting cholesterol, LDL and triglycerides.
- > To rephrase the question, is there a perception of a
- > clinical issue on metabolism with Seroquel and do we need to try to put a
- > stake in the ground as soon as possible and in advance of the Trial 43
- > data?
- > Thanks
- > Martin
- >
- > PS I wrote this prior to reading your mail regarding
- > the Sernyak, Wilson (included among the refs) and Casey posters which are
- > consistent with the data cited above.

> -----Original Message-----

- > From: Brecher, Martin
- > Sent: 14 September 2001 03:39
- > To: Aked, Dominic M; Bowen, Rebecca
- > Cc: Oldham, Alex
- > Subject: metabolic issues

> << Message: Seroquel Pre-SERM Information >>

- > Dom, Rebecca,
- > 2 small streams of information have come my way.
- > First is an advertisement from a psych journal from Janssen claiming no
- > diabetes with risperidone. Second is a bibliography received yesterday
- > (attached) with includes abstracts of several articles characterizing small
- > patient samples in which clozapine and olanzapine had adverse effects on
- > cholesterol, LDL, triglycerides, insulin levels, blood glucose and the
- > incidence of diabetes. Quetiapine as best I can tell from the abstracts
- > comes off as a lesser offender. Risperidone is not linked to these
- > events. I therefore would like your views whether we should do a review
- > of our data designed to lead to a publication where we add no adverse
- > metabolic consequences to our preferred safety profile along with EPS,
- > prolactin weight and QT.
- > We have already submitted a regulatory defense
- > showing no effect of Seroquel on random blood glucose and no signal of new
- > ~~diabetes or hyperglycemia.~~
- > Trials 41 (SR pivotal) and 43 (risperidone
- > comparator) measure fasting blood glucose and trial 43 also measures
- > fasting cholesterol, LDL and triglycerides.
- > To rephrase the question, is there a perception of a
- > clinical issue on metabolism with Seroquel and do we need to try to put a
- > stake in the ground as soon as possible and in advance of the Trial 43
- > data?
- > Thanks
- > Martin

pendin

*Case 41 -
Trial 41?*

- >
- > PS I wrote this prior to reading your mail regarding
- > the Sernyak, Wilson (included among the refs) and Casey posters which are
- > consistent with the data cited above.