

## Obstetrics and gynaecology

### Labour induction vs expectant management in nulliparous women

Induction at term significantly reduced the Caesarean section rate, compared with expectant management, in low-risk nulliparous women in a large multicentre trial from the US. However, it did not confer any benefits in terms of perinatal outcomes.

A total of 6,106 nulliparous women with uncomplicated pregnancies were enrolled in the 39th week of pregnancy. Of these, 3,062, median age 24 years, were randomised to induction at 39 weeks 0-4 days, and 3,044, median age 23 years, to expectant management.

Women in the latter group were asked not to have an elective delivery before 40 weeks 5 days, and to deliver before 42 weeks and 2 days.

After accounting for drop-outs and protocol violations the final numbers were 2,875 in the induction group and 2,879 in the expectant management group. The groups were demographically similar.

The primary perinatal outcome was a composite of perinatal death or severe neonatal complications e.g. the need for respiratory support, seizure, sepsis, encephalopathy. This occurred in 133 (4.3%) induced and 164 (5.4%) expectant management pregnancies. The difference was just below the level required for statistical significance RR 0.08 (95% CI: 0.64-1.00;  $P = 0.049$ ).

Only the need for respiratory support was significantly higher in babies in the expectant management group: 91 (3.0%) vs 127 (4.2%); RR 0.71 (95% CI: 0.55-0.93).

There was no significant difference between the groups in secondary perinatal outcomes (e.g. birthweight, cephalhaematoma, hyperbilirubinaemia).

The primary maternal outcome was Caesarean section which was significantly lower in the induction group (18.6% vs 22.2%), RR 0.84 (95% CI: 0.76-0.93,  $P < 0.001$ ).

This equates to one fewer Caesarean section for every 28 women induced at 39 weeks' gestation. The difference was independent of the Bishop score assessed in both groups in the 38th week, before randomisation was performed.

Women randomised to induction reported slightly less pain during labour (using the 10-point Lickert pain scale) and perceived slightly more control during labour (using the Labor Argentry Scale). They did however spend more time in the labour and delivery wards than those randomised to expectant management although their overall hospital stay was shorter.

Of the various secondary maternal outcomes surveyed, only hypertensive disorders were significantly different. There were 227 cases (9.1%) in the induction group vs 427 (14.1%) in the expectant management group; RR 0.64 (95% CI: 0.56-0.74;  $P < 0.001$ ).

This large well organised study was reassuring in that elective induction at term does not appear to increase the Caesarean section rate; in fact, it reduced it. However, it did not show any fetal/neonatal benefit in terms of mortality or serious morbidity.

The authors caution that limitations to the study include the possibility of ascertainment bias, as it could not be conducted blind, most adverse perinatal outcomes were relatively rare and the study was not powered to detect differences in infrequent outcomes. Furthermore, it was not clear whether the results could be generalised across other populations.

The author of an accompanying editorial points out that women who agreed to take part in the study were younger, median age 23-24 years compared with a mean of 28.7 years for new mothers in the US, and only 4.1% were >35 compared with a national average of 17%. They were also more likely to have been of black or Hispanic ethnicity.<sup>1</sup>

Whether elective induction at 39 weeks' gestation may be beneficial in multiparous and older women remains to be seen. The logistical implications of an increased duration of stay in labour wards and birthing

units in women electively induced at 39 weeks would have to be considered too.

**DR CHRIS BARCLAY**

Grobman WA, Rice MM, Reddy UM et al. Labor induction versus expectant management in low-risk nulliparous women. *N Engl J Med* 2018;379:512-23

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## Mental health

### Apathy associated with incident dementia in the elderly

Apathy symptoms may identify older patients who are at increased risk of developing dementia, a Dutch prospective cohort study has found.

Data were obtained from the Prevention of Dementia by Intensive Vascular Care trial. Participants were aged 70-78 years, resident in the community and free from dementia at baseline.

The 15-item Geriatric Depression Scale (GDS) was used to identify symptoms of apathy (3 items) and depression (12 items). The three apathy questions were:

- Have you dropped many of your activities and interests?
- Do you prefer to stay at home, rather than going out and doing new things?
- Do you feel full of energy?

Participants were followed up at two-yearly intervals over a period of six to eight years. A total of 3,427 participants completed follow-up and were included in the analysis. Incident dementia was diagnosed clinically using DSM IV criteria and confirmed by an independent adjudication committee.

Overall, 232 (6.8%) of the participants developed dementia.

Both apathy symptoms hazard ratio (HR) per symptom 1.28 (95% CI: 1.12-1.45) and depressive symptoms HR 1.12 (95% CI: 1.05-1.19) were associated with incident dementia.

Isolated apathy symptoms (< 2 concurrent depressive symptoms) and isolated depressive symptoms (< 2 apathy symptoms) were also associated with dementia; HR 1.26 (95% CI: 1.06-1.49) and HR 1.16 (95% CI: 1.03-1.31) respectively.

Following adjustment for age, sex, MMSE score, disability and cardiovascular history, apathy symptoms remained significantly associated with dementia HR 1.21 (95% CI: 1.06-1.40) whereas depressive symptoms did not. The association between depressive symptoms and dementia was also lost when the GDS item on memory impairment was removed.

Further analysis suggested that the associations with incident dementia were stronger in the short term, which would suggest that apathy and depressive symptoms are prodromal features of dementia rather than risk factors. A recent study which looked at retrospective trajectories of depressive symptoms came to the same conclusion.<sup>1</sup>

Apathy is defined as a lack of motivation not attributable to emotional distress, cognitive impairment or a reduced level of consciousness.<sup>2</sup> The diagnostic criteria require the presence of symptoms from at least two of the three dimensions of apathy, namely: goal directed behaviour (e.g. not starting conversations, doing basic tasks), cognition (e.g. lack of interest in recent news or family affairs) and emotion (e.g. loss of emotional responsiveness to events). These symptoms should cause significant functional impairment.<sup>3</sup> Apathy is distinguished from depression by the absence of dysphoria (low mood, dissatisfaction with life) and feelings of hopelessness, helplessness or worthlessness, which are covered by 7 and 3 of the GDS-15 items respectively.<sup>4</sup>

Although the three apathy items of the GDS are increasingly being used as a research measure of apathy, the low reported sensitivity, using a cut-off of  $\geq 2$ , does not support their use as a screening tool.<sup>5</sup>

A further difficulty is the low prevalence of clinical apathy in the general population e.g. only 1.4% of cognitively unimpaired older individuals from a US population.<sup>6</sup> In

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this population group the PPV would only be 3.5%.

The authors conclude: 'Since depressive symptoms other than memory complaints did not seem to be related to dementia risk, apathy symptoms may be better suited to alert general practitioners to vulnerable persons who could benefit from a more active caregiving approach.'

Compared with those with no symptoms, participants with all three apathy symptoms had approximately double the hazard of developing dementia. However, the absolute risk increase is low, few screen-positive patients will have clinical apathy and there are as yet no treatments with proven efficacy.<sup>7</sup>

## DR PHILLIP BLAND

Van Dalen JW, van Wanrooij LL, Moll van Charante EP et al. Apathy is associated with incident dementia in community-dwelling older people. *Neurology* 2018;90:e82-9

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## Cardiovascular disease

### Length and quality of sleep may affect cardiovascular risk

Sleeping for more than 8 hours a night was associated with an increased risk of mortality and poor quality sleep with an increased risk of coronary heart disease (CHD), a large meta-analysis has found.

The investigators carried out a systematic review and meta-analysis of prospective cohort studies that evaluated the association between sleep duration and quality and cardiovascular outcomes. They searched MEDLINE and EMBASE and identified 74 suitable studies including 3,340,684 participants with data on 242,240 deaths among 2,564,029 participants.

Self-reported duration of sleep in excess of 8 hours was associated with a moderately increased risk of all-cause mortality:

- Risk ratio (RR) 1.14 (95% CI: 1.05-1.25) for 9 hours' sleep
- RR 1.30 (95% CI: 1.19-1.42) for 10 hours' sleep
- RR 1.47 (95% CI: 1.33-1.64) for 11 hours' sleep

Likewise, a moderately increased risk of mortality due to stroke and cardiovascular disease was also observed with sleep duration > 8 hours.

Subjective poor sleep quality was associated with a significant increase in risk of CHD; RR 1.44 (95% CI: 1.09-1.90), but not mortality or any other outcomes.

The National Sleep Foundation in the US recommends 7 to 9 hours of sleep for people aged 26 to 64 years and 7 to 8 hours of sleep for those

aged 65 years and over.

The authors acknowledge several limitations to their study for example sleep duration was not measured objectively but self-reported and there was an absence of individual patient level data.

The study authors state: 'Although we demonstrated an association between sleep quality, duration and outcome, these relationships cannot confer causality and it is unclear whether sleep duration or quality is a marker of prevalent cardiovascular risk, an adverse cardiovascular risk factor profile, or adverse health behaviours that contribute to the adverse outcomes reported.'

They suggest that greater consideration should be given to exploring sleep patterns during patient consultations.

## DR PETER SAVILL

Kwok CS, Kontopantelis E, Kuligowski G et al. Self-reported sleep duration and quality and cardiovascular disease and mortality: A dose-response meta-analysis. *J Am Heart Assoc* 2018;7:e008552

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