

JULY CASE DISCUSSION

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A 38y old primigravida, actually in the 28th week of pregnancy, wanted to spend her millennium party in a very remote hut in the Swiss mountains at an altitude of 2350 m above sea level and stay there for 3 days. Once up there, she must stay as the access is difficult and specially organised for the whole group. She normally lives at 200m above sea level. So far the pregnancy has passed without any problems. Is there an increased AMS risk or other medical risk for this pregnant women? (case supplied by Hanna Gubler Ursin, Switzerland)

Jean-Paul Richalet, France

No problem. Avoid strenuous exercise.

Franz Berghold, Austria

I do not see any special problem for this pregnant woman at this moderate altitude. There is no evidence that there would be a higher risk of AMS or a problem for the baby. In the glacier-ski-area of the Kitzsteinhorn/Kaprun there is a beautiful hotel at approximately the same altitude. Up there, surely thousands of pregnant women have spent their skiing holidays, but in 22 years I have been faced with no altitude-related problem of pregnant women at all.

Ken Zafren, USA

This is a very modest altitude. I don't think she is at increased risk for AMS and even if she has AMS she is unlikely to become hypoxaemic, which would be the main danger to the fetus. Certainly, being at a hut in the Swiss Alps is not likely to predispose to inactivity or dehydration and I don't think that she would be significantly increasing her risk of deep venous thrombosis or pulmonary embolus. Her biggest danger, which would still be small, would be that of premature labor in a remote setting. No hut in Switzerland is very remote, however, so in the very unlikely event that this woman were to go into premature labor, she could likely be evacuated. I would be more concerned if the hut were higher or more remote, but I think you have described a situation which does not markedly increase risk. I am making the assumption that access would be by helicopter. The risk of the helicopter crashing is probably equal to the increased medical risk.

Buddha Basnyat, Nepal

I don't think altitude per se poses a problem here. She needs to think about the whole group and emergency problems she may have as a pregnant woman that may play havoc with the entire groups plans.

James Milledge, UK

As far as I know pregnancy is not a risk factor for AMS. If this woman's previous altitude history indicates she is a good acclimatizer, an altitude of 2350m should not be too much of a problem. However I am worried about a 38 year old woman at 28 weeks pregnant putting herself in any situation at any altitude, where she is cut off from medical aid for 3 days. The risk of going into premature labour at this time,

though small, is real. I would advise against this trip for her.

David Hillebrandt, UK

I was recently asked almost exactly the same question by an active pregnant British Alpinist and did a literature search. Most of the information I came across was relevant to long term residence at altitude but I note that Pollard and Murdoch state "Current data suggest that high altitude sojourns by unacclimatised pregnant women are best avoided". In this case I would be particularly worried by the apparent difficulty in descending.

Looking at the problem in a more holistic way with my travel medicine hat on there is good data that people leave their sexual inhibitions behind when on holiday, when enjoying alcohol and when at a party. This sounds like a three day party for a group on holiday. Fun and I wish I was there. Our interest in preventive medicine should make us council the rest of the party about high altitude contraception and STD prevention. See ISMM newsletter Vol 8, No" April 1998 "COC at altitude", The British Journal of Family planning Feb 1996:22 123-126 "Use of OC on treks and expeditions" and also comments in Pollard and Murdoch again.

Michael Yaron, USA

I do not think that there is any great risk for developing altitude-related illness in this women. As with any pregnant woman, one must weigh the risks of wilderness travel against the potential for morbidity, should a medical problem arise. As long as this pregnancy is normal I do not feel that she should be discouraged from her plans.

Simon Gibbs, UK

In a 38 year old primagravida the pregnancy is likely to be precious. I think it is unwise to go anywhere if access to good medical care is compromised or she is exposed to an unnecessary risk of trauma (eg climbing to the hut). At 2350 m she will have physiological changes associated with hypoxia, but whether these will lead to AMS is uncertain. She should not take acetazolamide.

Stephen Bezruchka, USA

I would guess an increased risk of thromboembolism. I advise such people, considering age, that if the pregnancy is very important to her, and she tends to avoid potentially risky situations, to avoid such exposure.

Lorna Moore, USA

Assuming that she is healthy reasonably hardy, and having an uncomplicated pregnancy, I suspect that she'll be fine. There is likely to little arterial O₂ desaturation at 2350 m in a week 28 pregnant women (whose ventilation is already increased ~20% by her pregnancy). Cardiac output is near maximal (during pregnancy) at this time and there is little morning sickness by wk 28 as well. Placentation is complete so there is little chance of hypoxia impacting placentation. AMS at this altitude is also likely to be moderate.