

You asked about...

Answers to your questions from medical experts

This month:

1. **Could you distinguish between free PSA and total PSA?**
2. **How does the mean arterial pressure (MAP) affect the menstrual cycle, and what is the most appropriate use of MAP?**

1. **Could you distinguish between free PSA and total PSA? Which should I use in family practice?**

Submitted by
Dr. D. Alinda,
general practitioner,
Pickering, Ontario.

Prostate specific antigen (PSA) is one of the best diagnostic and screening tests available, but has its limitations. The higher the PSA level, the higher the risk of cancer. PSA usually refers to total PSA with the cut-offs for normal being between 2.5-4 in most centres. Slightly elevated PSA levels (below 10) are most often associated with noncancerous conditions. Below 15% free PSA the risk is high, as opposed to a free PSA above 25% where the risk of cancer is low. Free PSA (just as total PSA) does not guarantee the absence of cancer, and in most cases transrectal ultrasound prostate biopsies still have to be performed. Research is ongoing to perfect different assays of PSA or to identify other non-invasive tests. One such test is a urinary test (UPM-3) which appears to better identify patients at risk (Saad et al. 2003 American Urological Association annual meeting).

For now, the family practitioner should use total PSA. Patients with elevated PSA should be referred for evaluation regardless of free PSA levels. Free PSA may help in estimating the risk of cancer. In some cases where one accepts some calculated risk of missing cancer, free PSA may be useful but one should be conscious of the risk.

Answered by:

Dr. Fred Saad, MD, FRCSC,
associate professor,
Université de Montréal,
department of urology,
Centre Hospitalier de
l'Université de Montréal,
Montreal, Quebec.

You asked about...

2. How does the mean arterial pressure (MAP) affect the menstrual cycle, and what is the most appropriate use of MAP?

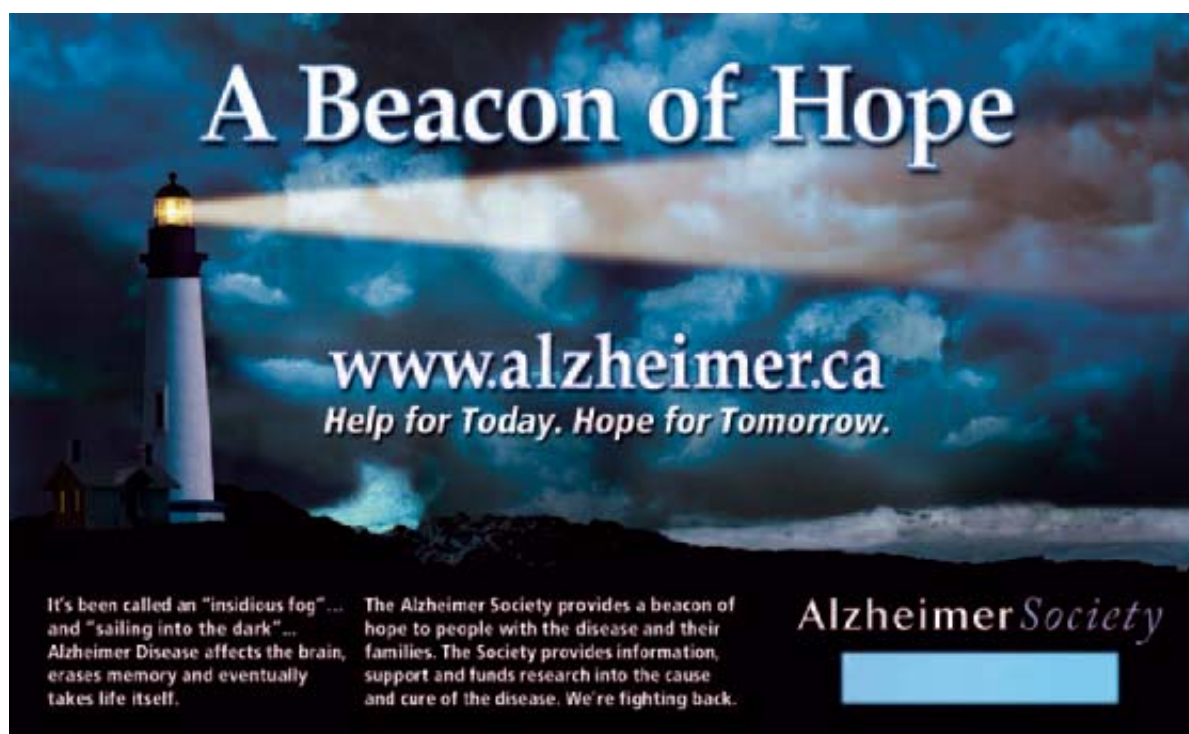
Submitted by
Dr. Saroj Kumar,
general practitioner,
Vancouver, British Columbia.

The effect of the menstrual cycle on blood pressure (BP) is not well documented. While there are studies examining the changes in systolic and diastolic BP, no study to date has looked directly at the mean arterial BP.

Physiologically, changes in BP would be expected. There are known changes in the renin-angiotensin system associated with different periods of the menstrual cycle. Estrogen is also associated with vasodilation and theoretically should

affect BP due to the hormonal fluctuations throughout the menstrual cycle. Whether other compensatory mechanisms negate these effects needs to be observed clinically.

Dunne et al.¹ observed 30 normotensive women throughout their menstrual cycles. Systolic and diastolic BPs were significantly lower in the luteal phase. However, this decrease was approximately 1 mmHg. These results are consistent with other studies where systolic and/or diastolic changes of



A Beacon of Hope

www.alzheimer.ca
Help for Today. Hope for Tomorrow.

It's been called an "insidious fog" ... and "sailing into the dark" ... Alzheimer Disease affects the brain, erases memory and eventually takes life itself.

The Alzheimer Society provides a beacon of hope to people with the disease and their families. The Society provides information, support and funds research into the cause and cure of the disease. We're fighting back.

Alzheimer Society

approximately 1-3 mmHg were observed. Similar results have been found when hypertensive women were studied.

BP does appear to change throughout the menstrual cycle but these changes are small and most likely have no effect clinically with regards to measuring BP in the office.

1. Dunne FP, Barry DB, Ferriss JB, et al: Changes in blood pressure during the normal menstrual cycle. *Clinical Science* 1991; 81(4):515-8.

Answered by:

Dr. James Graham, MD, FRCSC, fellow, reproductive endocrinology, department of gynecology, University of British Columbia, Vancouver, BC.



Helping Keep
Your Patients
Covered.

See page 98

