Purified pollen extract and vasomotor symptoms management

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SUMMARY: Purified Pollen Extract and vasomotor symptoms management.

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Vasomotor symptoms (hot flushes, sweats) are the most frequent problems in menopausal period. Pathophysiology of vasomotor symptoms is based on estrogen decrease, alteration of neurotransmitters levels (serotonin, noradrenalin) and on dysregulation of systemic arterial tree. Hormone Replacement Therapy is a first-line treatment in the management of climacteric syndrome. Other non-hormonal therapies include drugs with central action as Serotonin Reuptake Inhibitors (SSRIs) and Serotonin-Noradrenalin Reuptake Inhibitors (SNRIs).

A purified pollen extract has demonstrated to improve vasomotor symptoms and quality of life in premenopausal and postmenopausal women in randomized placebo-controlled trials. Its mechanism of action is based on a SSRI-like activity, through the inhibition of serotonin reuptake.

Key words: Vasomotor symptoms - Menopause - SSRIs - Purified pollen extract.

Un estratto di polline purificato ha mostrato di migliorare la sintomatologia vasomotora e la qualità della vita globale in donne in premenopausa ed in postmenopausa in studi randomizzati, controllati con placebo. Il suo meccanismo di azione è legato alla sua attività SSRI-simile, attraverso l’inibizione del reuptake della serotonina.

Key words: Sintomi vasomotori - Menopausa - SSRIs - Estratto di polline purificato.
ations reduce vascular compliance and make vascular walls less adaptable to body temperature changes (4).

Different neurotransmitters are involved in menopausal HF aetiopathogenesis. For example, the alfa adrenergic agonist called clonidine and also gabapentin, should be used in climacteric syndrome, as they can reduce HFs in some patients.

Besides, perimenopausal progressive lack of estrogens causes important reduction of noradrenaline and serotonin levels which are both recognized to be essential to explain vasomotor disturbances (5). Lots of studies confirmed selective serotonin (such as paroxetine, citalopram and escitalopram) and noradrenaline (like venlafaxine) reuptake inhibitors (SSRI/SNRI) exert not only a significant antidepressant action but also a marked control of HFs in perimenopausal women, in particular in those who cannot be treated with hormone replacement therapy (HRT) (6-8). These drugs may increase the concentration of serotonin and/or noradrenaline at presynaptic sites, producing a beneficial control of central body temperature and so reducing HFs (Figure 1).

On the other hand, serotonin is considered a key neuromodulator in sleep regulation. Some Authors demonstrated release of serotonin during waking may initiate a cascade of genomic events in some hypnogenic neurons of the preoptic area, suggesting when it is released during waking, it leads to an homeostatic regulation of slow-wave sleep (9) (Figure 2).

Purified cytoplasm of pollen (PCP) is an alternative herbal non hormonal therapy possibly used to treat vasomotor symptoms. It is composed by 40 mg of purified cytoplasmic extracts of pollen (GC Fem) and a mix of purified cytoplasmic extracts of pollen/pistils 120 mg (PI 82), in addition to 5 mg of vitamin E. Pharmacological activity of PCP is quite similar to that described for the SSRIs, producing relevant reduction of HFs and remarkable amelioration of life quality (10, 11). It has been largely demonstrated PCP can not only directly induce improvement of HFs and quality of life and sleep, due to its capability to act as a natural serotonin reuptake

![Figure 1 - Serotonin release and reuptake PCP inhibitory effect on serotonin reuptake.](image-url)
inhibitor, but also indirectly impact on mood and global health through its positive effects on vasomotor symptoms, according to the “domino effect” (10, 12, 13).

References

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