Pap Smear Cell Patterns May Signal Bone Loss

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HARROGATE, ENGLAND — Women whose Pap smears reveal atrophic cell patterns may be at greater risk for osteopenia and osteoporosis than women whose smears show mature cell patterns, a study has shown.

The findings suggest that routine Pap testing could be a useful and inexpensive screening tool for identifying women who are at risk for the degenerative bone disorders, Alenka Repse-Fokter, M.D., reported in a poster presentation at the annual conference of the National Osteoporosis Society.

Given limited medical resources, the ability to use an already existing and widely performed screening protocol to help identify women with osteoporosis "would be highly appreciated," she said.

Dr. Repse-Fokter and colleagues at Celje (Slovenia) General Hospital assessed the Pap smear results and dual-energy x-ray absorptiometry (DXA) bone density measurements of 66 women between 46 and 67 years old.

The women had received the Pap smears for routine cervical cancer screening and were invited to undergo bone mineral density measurement as part of the investigation.

None of the women used hormonal contraception or hormone therapy, Dr. Repse-Fokter said.

The investigator and her associates grouped the smears into atrophic and mature cell patterns, which can be easily recognized during the screening for cervical dysplasia or cancer.

"In routine light microscopy, atrophic cells appear much smaller than cells in mature smear patterns," she noted.

The smear patterns were then compared with the patients' T values measured by DXA on the femoral neck and lumbar spine.

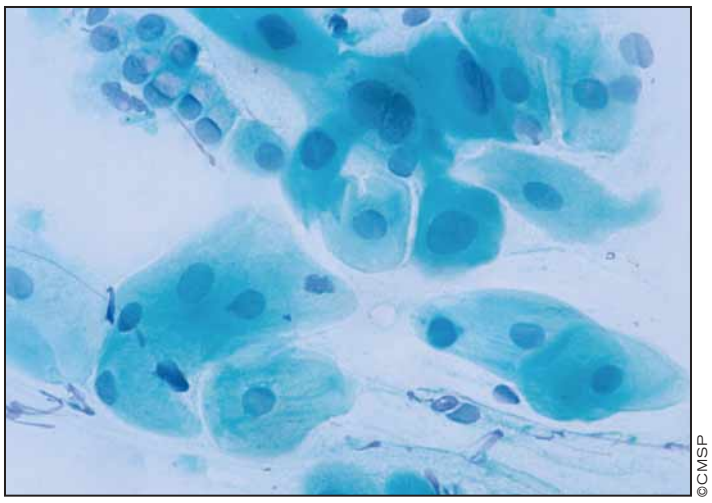
Overall, the T scores were significantly lower in the atrophic smear group. Of the 33 women with atrophic smears, 13 had osteopenia and 15 had osteoporosis. Among the 33 women whose smears showed mature cell patterns, 9 had osteopenia and 24 had normal bone density, Dr. Repse-Fokter said.

The sensitivity, specificity, and positive predictive value of the findings were, respectively, 76%, 83%, and 85%.

The findings of a correlation between smear patterns and degenerative bone disease support the investigators' findings from a previous study that revealed a highly significant association between atrophic smear patterns and low bone mineral density.

"This means that a significant number of women with low bone mineral density who are at high risk [for osteoporotic disease] could be identified in parallel with routine Pap testing for cervical cancer screening without added costs," Dr. Repse-Fokter said.

Although further studies on larger populations are needed, "we strongly suggest that women with atrophic Pap smear patterns be closely followed as recommended by the American National Osteoporosis Foundation," according to Dr. Repse-Fokter and her colleagues. ■



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Atrophic cells are characterized by a progressive degeneration and wasting of the cells, as seen in this Pap smear.