Papanicolaou tests

Does lubricant reduce the quality or adequacy?

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Clinical question

Does using a small amount of water-soluble lubricant on the speculum reduce the adequacy of Pap tests?

Evidence

Four RCTs address this question. Conventional cervical cytology smears (glass slides) were used in all studies.1-4

• The largest RCT5 examined 2906 patients.
  -Water-soluble lubricant was compared with tap water.
  -No difference in the quality of cytology was found.
• Two smaller RCTs (N=182 and N=70)2,3 and a quasi-randomized (randomized by month) trial6 of 3460 Pap tests found no difference in test adequacy.

Context

• One study found that “more than the usual amount of gel” (ie, a 1- to 1.5-cm “ribbon” of lubricant directly on the cervical os) could affect Pap test adequacy.5
  -Clinicians do not do this; it is not applicable to regular clinical practice.
• No RCT has assessed lubricant influence on liquid-based Pap test results.
  -A retrospective review of 4068 liquid-based Pap tests found 15 (0.4%) had obscuring material causing misinterpretation of results: approximately half might have been related to lubricant use (combined with technologist inexperience).6
  -Two studies applied lubricant directly into liquid-based cervical cytology samples.7,8
    —One reported reduced cell counts (after this purposeful dilution), but the effect on adequacy was not assessed.7 Of note, Aquagel reduced cell counts more than K-Y jelly did.7
    —The second demonstrated no effect on liquid-based Pap test outcomes.8
• One RCT also examined if lubricant affected testing for chlamydia and found no effect after 5535 samples.4 (Gonorrohea was considered too uncommon to assess.)
  -A laboratory study demonstrated that gel mixed with chlamydia and gonorrhoea cultures did not affect platting or diagnosis.9

Bottom line

A small amount of water-soluble lubricant on the speculum does not reduce the quality of Pap tests and probably does not affect microbiologic results. Current evidence suggests the adequacy of liquid-based Pap tests would be minimally or not at all affected.