Management of abnormal cytology in pregnancy

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European Federation for Colposcopy
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International Agency for Research on Cancer
World Health Organization

European Federation for Colposcopy and Pathology of the Lower Genital Tract

EFC – management of abnormal smears: European Guidelines 2nd edition, IARC 2008

Colposcopy in pregnancy and in the postpartum period

Primary aim of colposcopy for pregnant women is to exclude invasive disease. Otherwise defer biopsy and treatment until delivery.

Women who have LG cytology and in whom colposcopy excludes HG disease, then repeat colposcopy/ cytology test 3-4 months after delivery.

Women with HG disease in whom colposcopy has excluded suspicion of invasive disease, review 3 monthly with final assessment 3-4 months following delivery. Decision should be made on whether treatment required.

Risk of progression of CIN3 low in pregnancy (up to 0.4%; Paraskevaidis et al, 2002).

However…

If pregnant woman requires colposcopy/ cytology after treatment (or follow-up of untreated CIN1), assessment may be delayed until after delivery.

Unless there is obstetric contraindication, assessment should not be delayed if 1st appointment for follow-up cytology/ colposcopy due following treatment for cGIN. 'Test of cure' appointment should not be delayed after treatment for CIN2-3 with involved/ uncertain margin status.

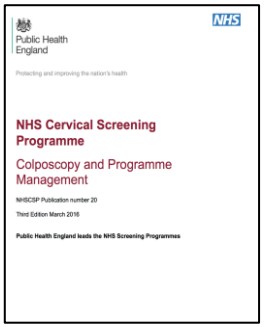
Colposcopy in pregnancy proceeds in same way as in non-pregnant woman. Colposcopic assessment of pregnant cervix more difficult than in non-pregnant cervix because:

- *cervix larger, oedematous/ more vascular*
- *ordinary cervical speculum may make access to cervix difficult, in which case larger speculum should be used*
- *cervix usually covered by mucus, which is difficult to remove*
- *in primiparous patient in particular there may be immature metaplasia, which can be confusing*
- *and… decidual changes of cervical epithelium can mimic cancerous epithelium.*

In addition, vascular changes associated with abnormality may be more pronounced leaving inexperienced colposcopist to conclude that severity of lesion may be more than it actually is.

A pregnant woman with abnormal cervical smear should be assessed by experienced colposcopist.

If malignancy suggested by cytologic/ colposcopic assessment then colposcopically directed biopsy/ biopsies should be taken, but in absence of these features biopsy should be postponed until after pregnancy.

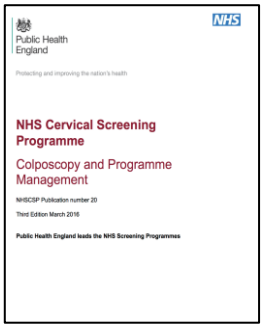


PHE Standards

Cervical screening during pregnancy

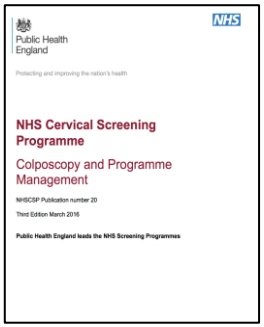
A woman referred with abnormal cytology should undergo colposcopy in late 1st/ early 2nd trimester unless clinical contraindication, however, for LG changes triaged to colposcopy with +ve HPV test, assessment may be delayed until after delivery.

If previous colposcopy abnormal and in interim the woman becomes pregnant, then repeat colposcopy should not be delayed.



May wish to perform colposcopy only @ follow-up appointment scheduled during pregnancy.

If repeat cytology due, and woman has missed/ defaulted appointment prior to pregnancy, cytology/ colposcopy during pregnancy can be considered.



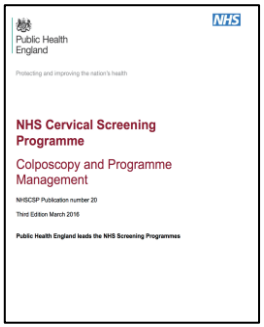
Evidence: safety of delaying treatment of pregnant women demonstrated in cohort/ retrospective uncontrolled studies (Coppola et al, 1997; Palle et al, 2000; Woodrow et al, 1998). Incidence of cervical cancer in pregnancy low/ pregnancy itself does not have adverse effect on prognosis (Nevin et al, 1995). Rate of cervical cancer associated with pregnancy declined in countries with population-based cervical screening, with data from Sweden suggesting reduction from 1.4% (1944-1957) to 0.9% (1990-2004; Pettersson et al, 2011).

Coppola et al. 1997; Palle et al. 2000; Woodrow et al. 1998; Nevin et al. 1995; Pettersson et al. 2011.

But maybe

- 5.4% progression rate to cancer in pregnancy (Siegler et al, 2017) if have biopsy proven CIN2/3 in early pregnancy. No research published regarding morbidity in pregnancy relating to 1st trimester and that is when to assess with guided biopsy if possible.
- Biopsy appears safe in 1st 15/40 pregnancy.

Siegler et al, 2017



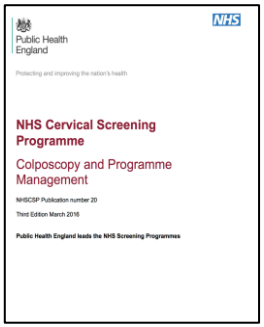
Management algorithm following initial colposcopy…

If ≤CIN1 suspected, repeat examination 3 months following delivery.

If CIN2/3 suspected, repeat colposcopy @ end of 2nd trimester. If pregnancy already advanced beyond that point, repeat 3 months following delivery.

If invasive disease suspected clinically/ colposcopically, biopsy adequate to make diagnosis essential. Cone, wedge, and diathermy loop biopsies all associated haemorrhage and such biopsies should be taken only where appropriate facilities to deal with haemorrhage available.

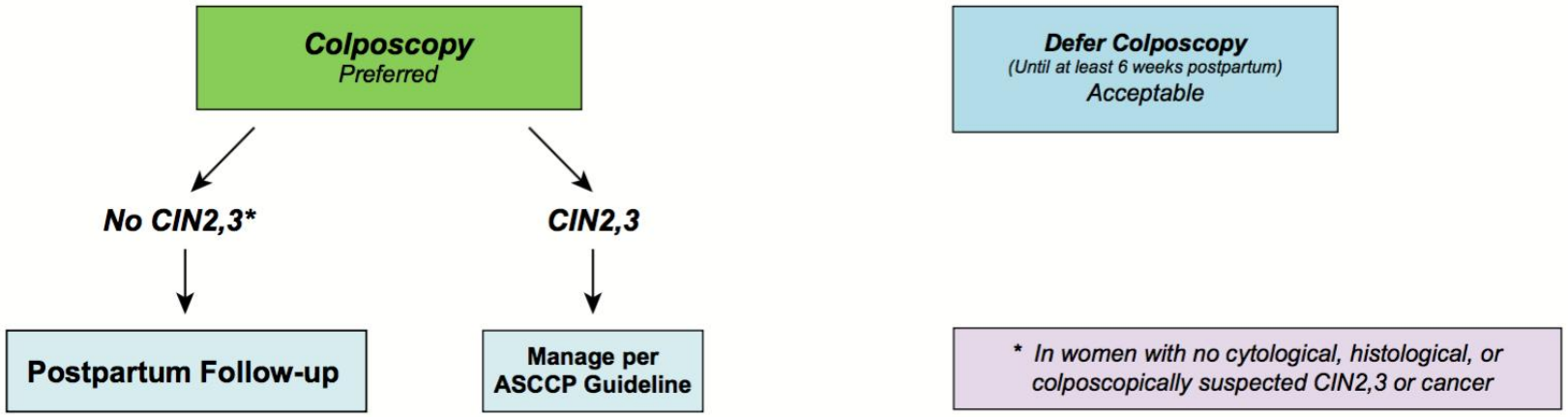
Punch biopsy suggesting CIN only cannot reliably exclude invasion.



Evidence: case series of biopsies taken by diathermy loop in pregnancy have shown risk of haemorrhage approx. 25% (Robinson et al, 1997). Case series of women with LG disease confirm safety of deferring further follow-up until postpartum period (International Collaboration of Epidemiological Studies of Cervical Cancer, 2007; Wetta et al, 2009).

Robinson et al. 1997; Wetta et al. 2009; International Collaboration of Epidemiological Studies of Cervical Cancer. 2007.

Management of Pregnant Women with Low-grade Squamous Intraepithelial Lesion (LSIL)



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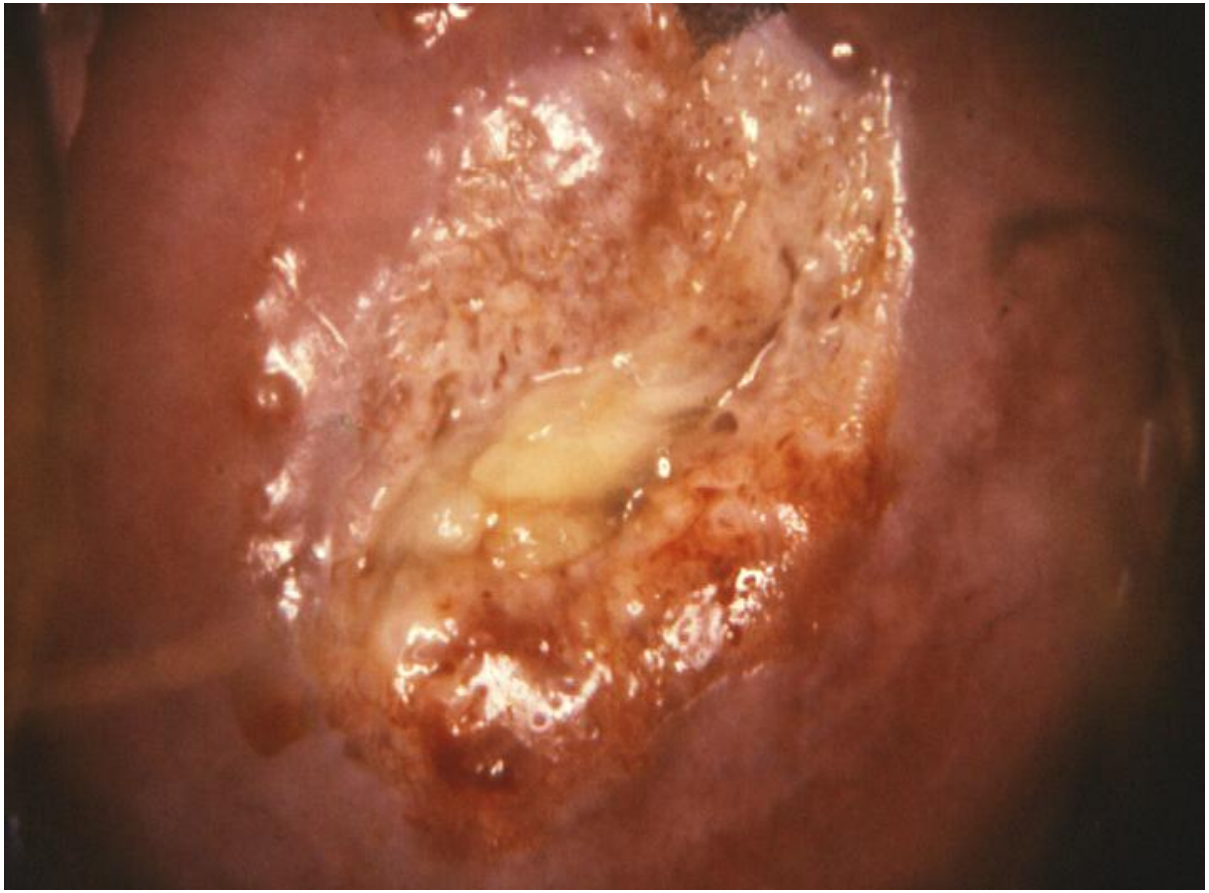
Rate of CIN2+ following LSIL/ ASC-US 3.7% in pregnancy (Dunn et al, 2001)

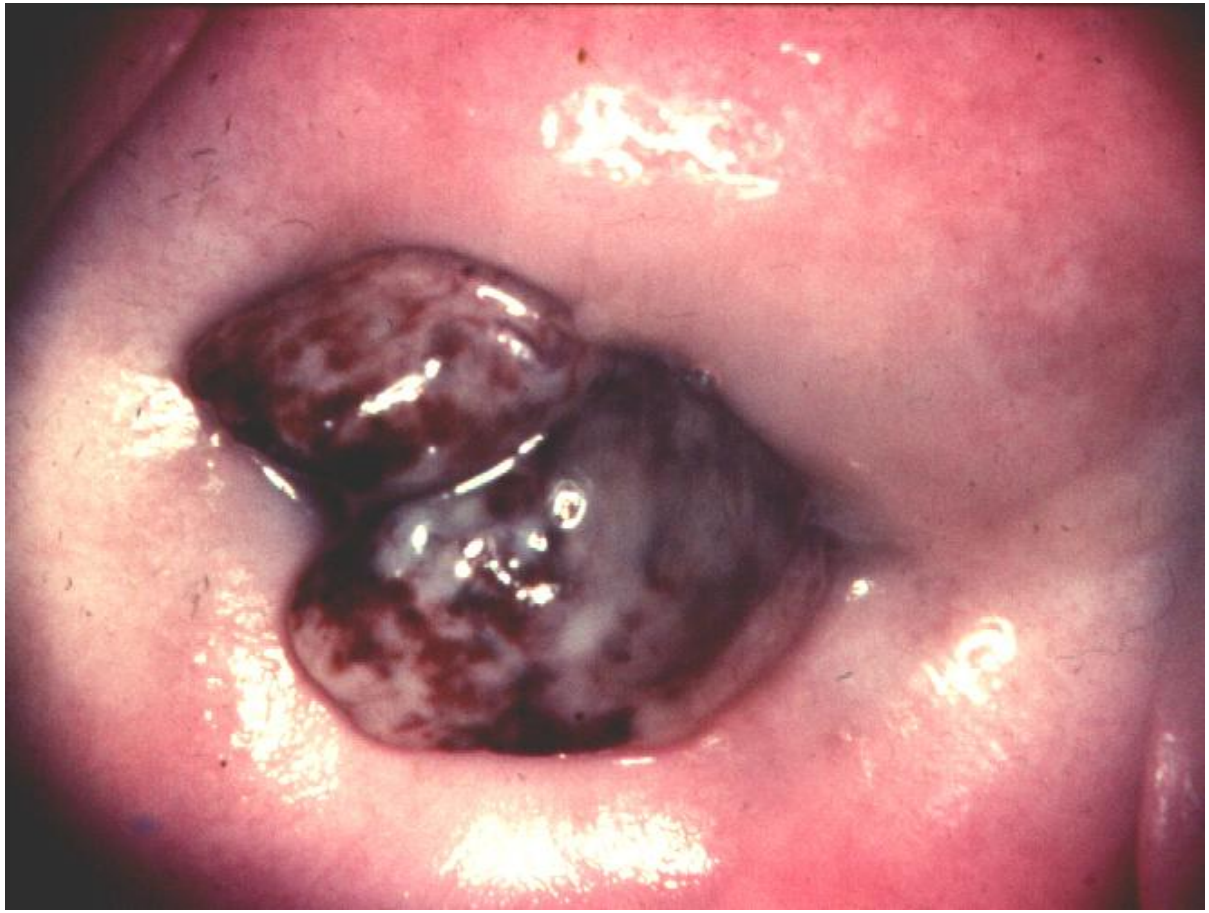
Colposcopic differentiation between decidual ectopy and carcinoma

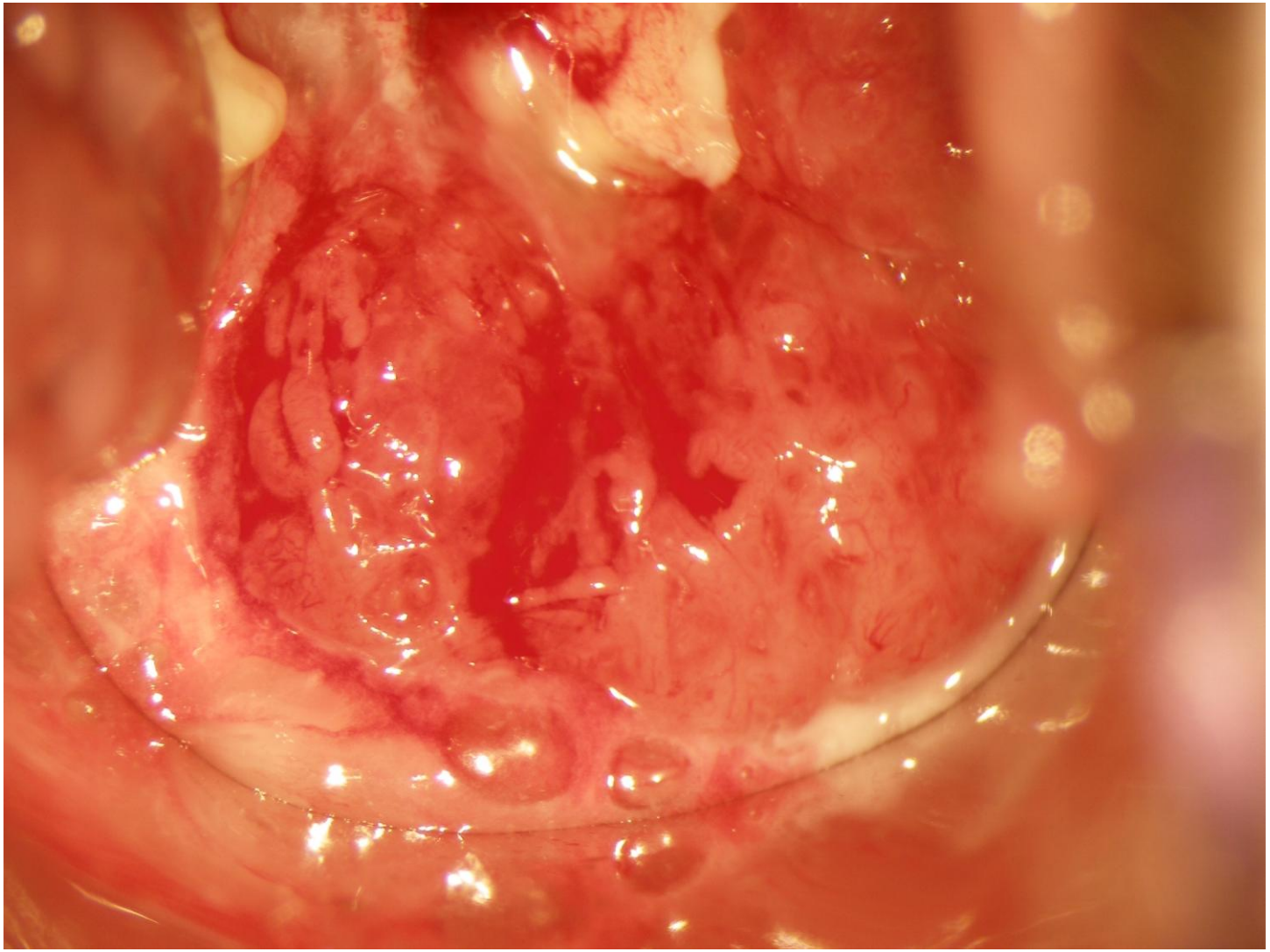
1. Location: decidual ectopy well demarcated, situated within typical squamous/ glandular epithelium, carcinoma situated mainly within atypical TZ

2. Form: exophytic growth of decidual ectopy usually multifocal, in carcinoma growth unifocal.

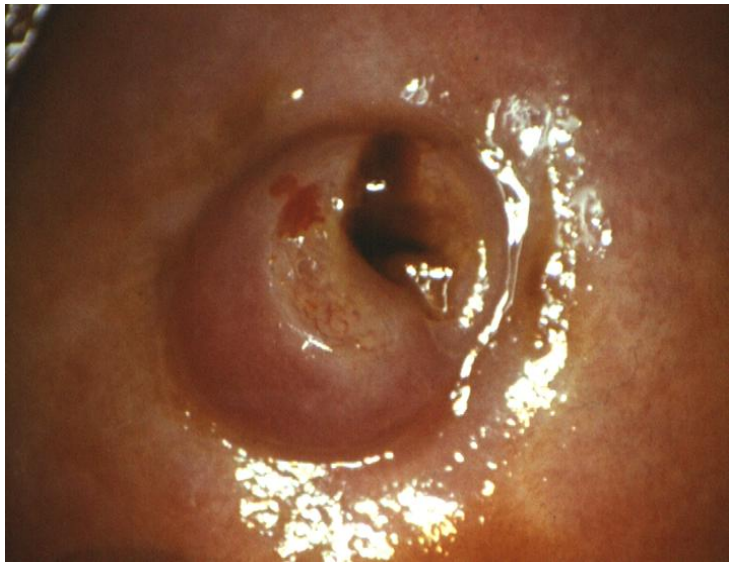
3. Vasculature: in decidual ectopy characterized by smaller vessels/ smaller inter-vessel spaces as compared to carcinoma. In decidual ectopy, vessels do not disappear in acetic acid test.

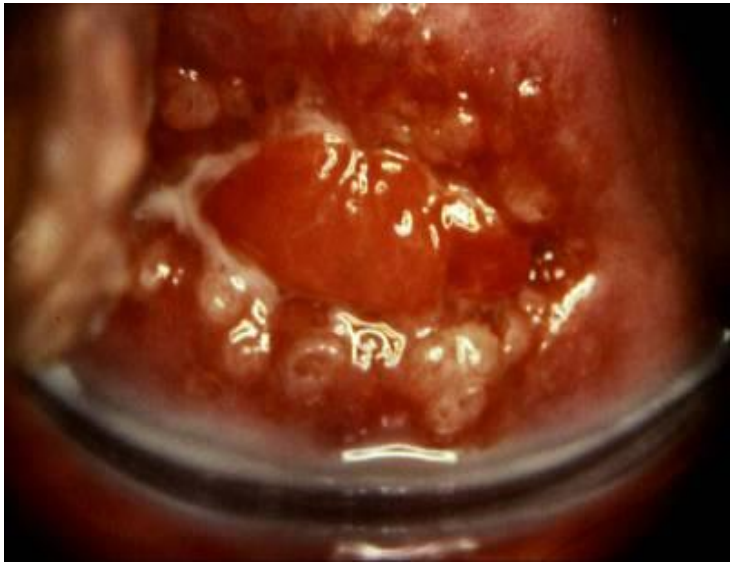


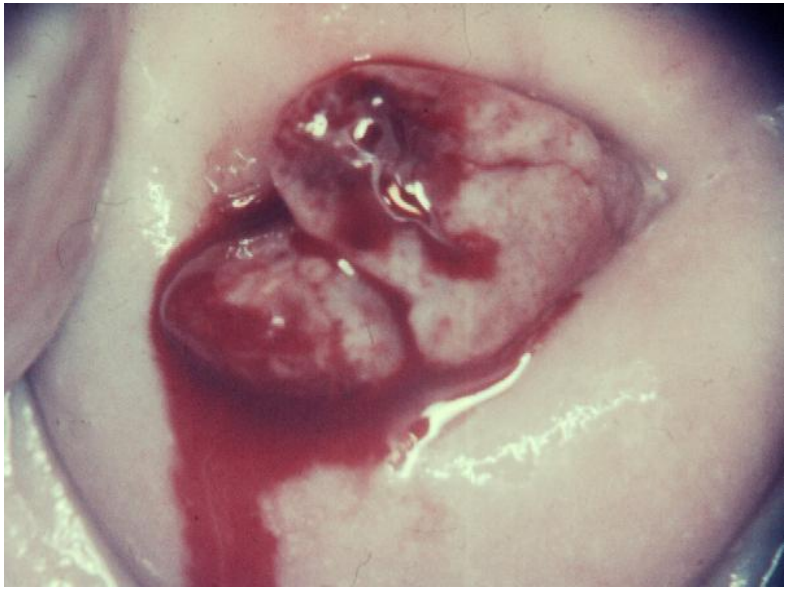




Nodular decidual ectopy

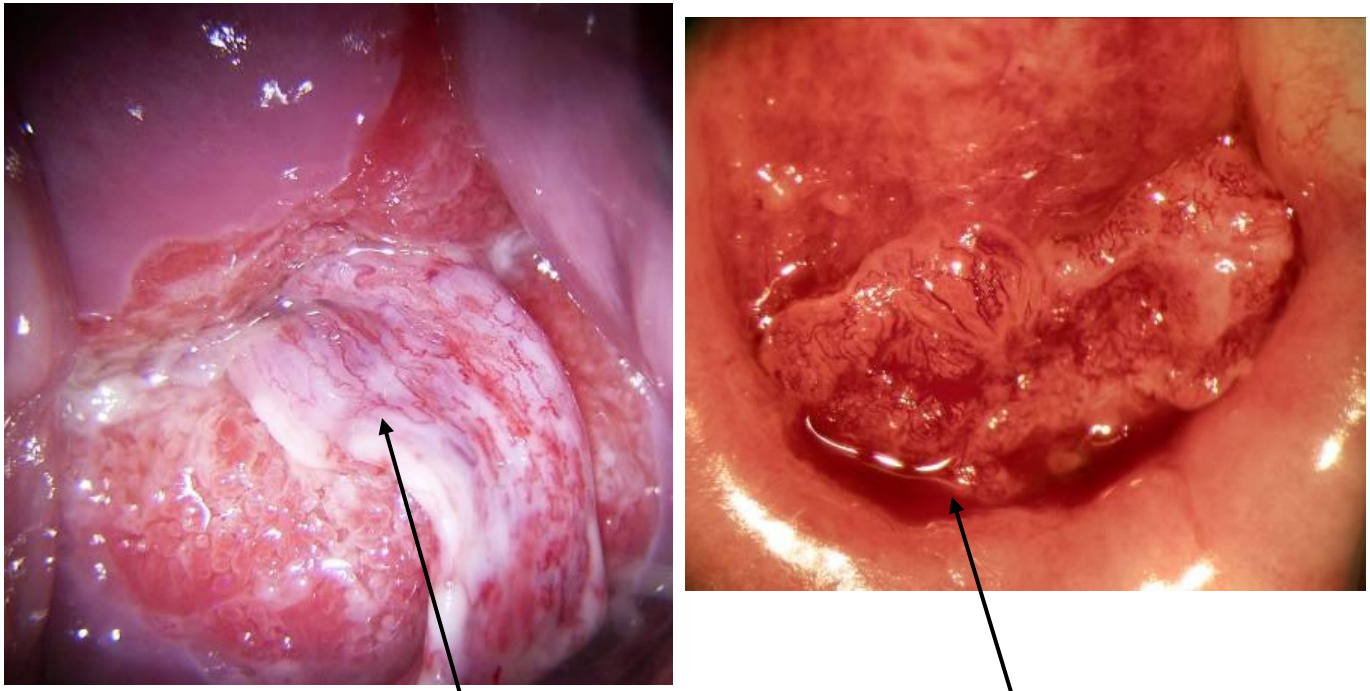




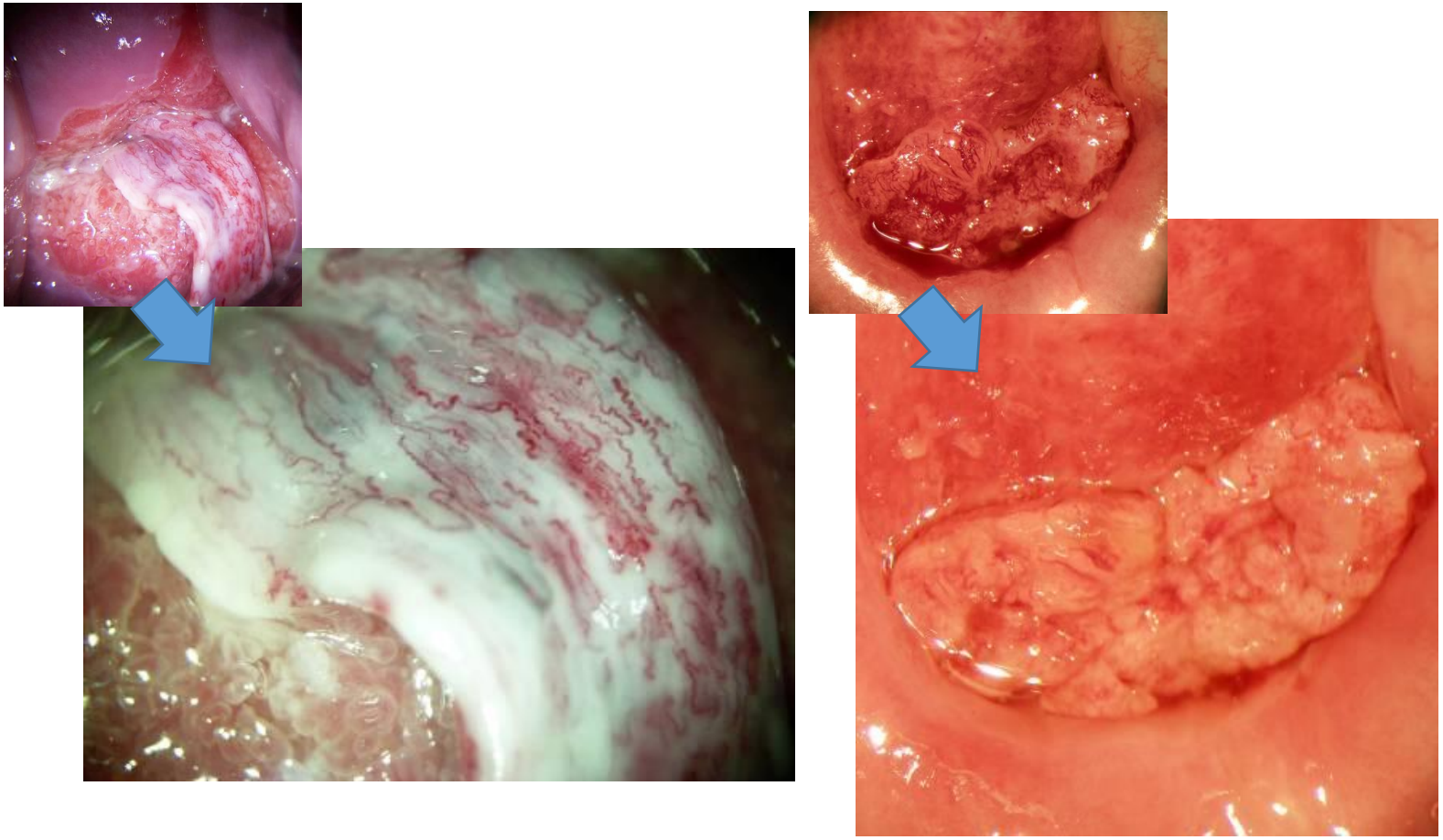


Pregnancy 16th week

6 weeks after delivery

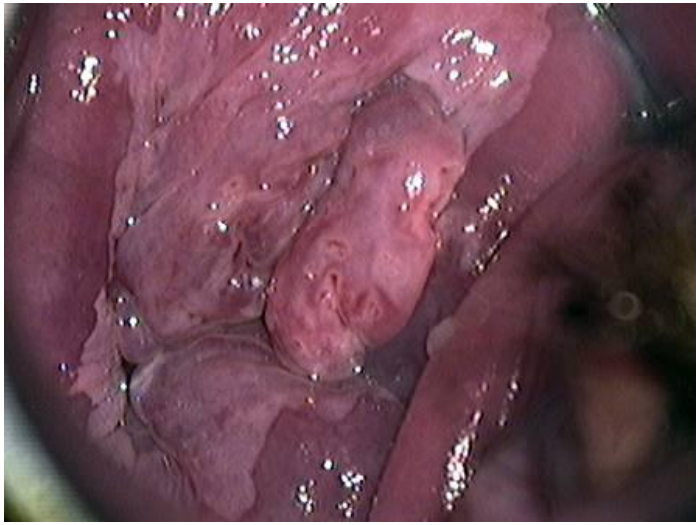


Vasculature in decidual ectopy compared to carcinoma characterized by smaller vessels/ smaller inter-vessel spaces

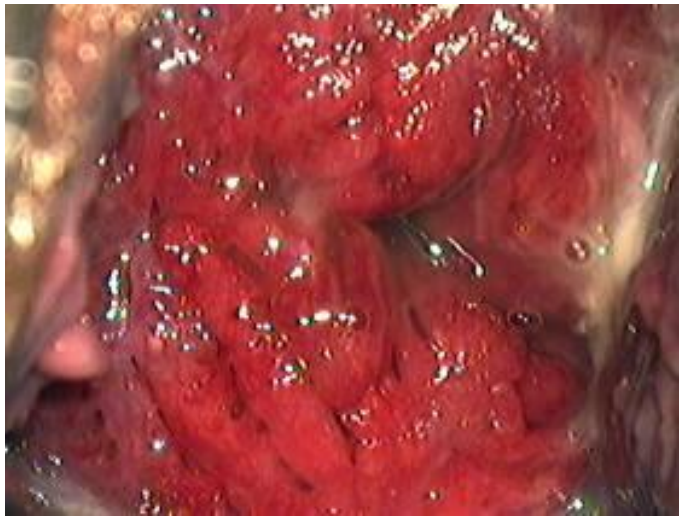


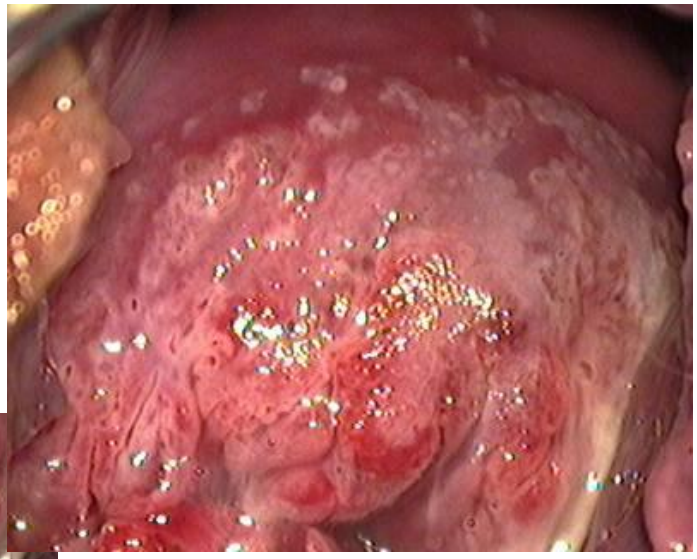
In decidual ectopy, vessels do not disappear in acetic acid test

Pregnancy 13th week

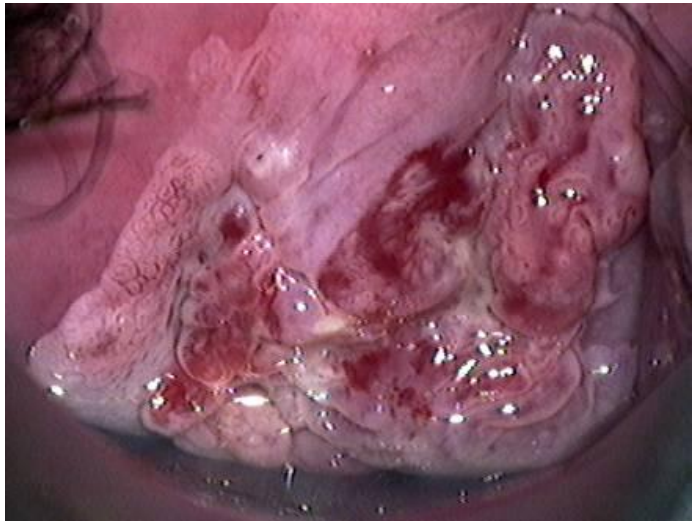


Pregnancy 22nd week

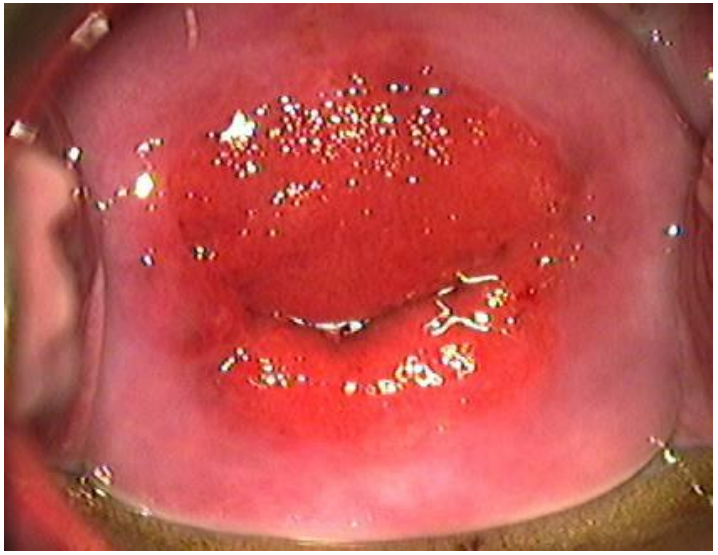


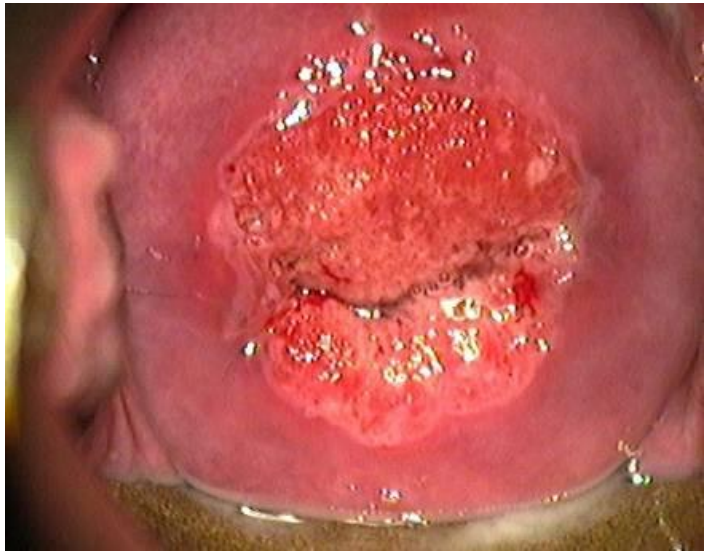


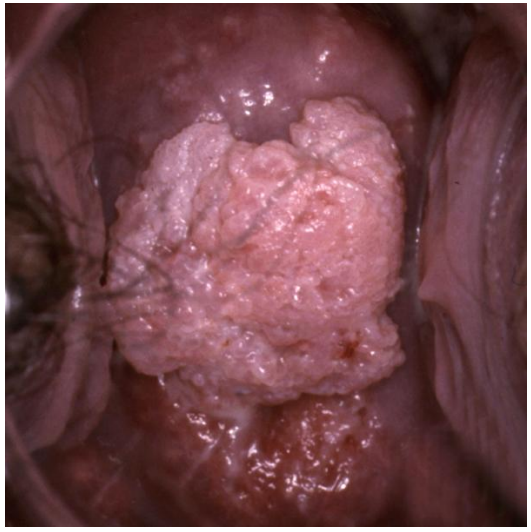
Pregnancy 36th week
Colposcopy – suspected invasion



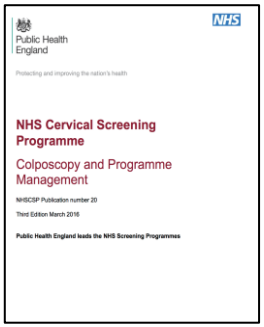
9 weeks after delivery
Colposcopy – same case: total remission







Cervical condyloma in pregnancy



Colposcopy follow-up after pregnancy

If colposcopy performed during pregnancy, post-partum assessment of women with abnormal cytology/ biopsy-proven CIN essential. Excision biopsy in pregnancy cannot be considered therapeutic.

In immediate puerperium, cervix may also be difficult to assess. Prior to 1st postnatal ovulation, particularly if breastfeeding, cervix may appear atrophic which makes both cytology/ colposcopy more difficult.

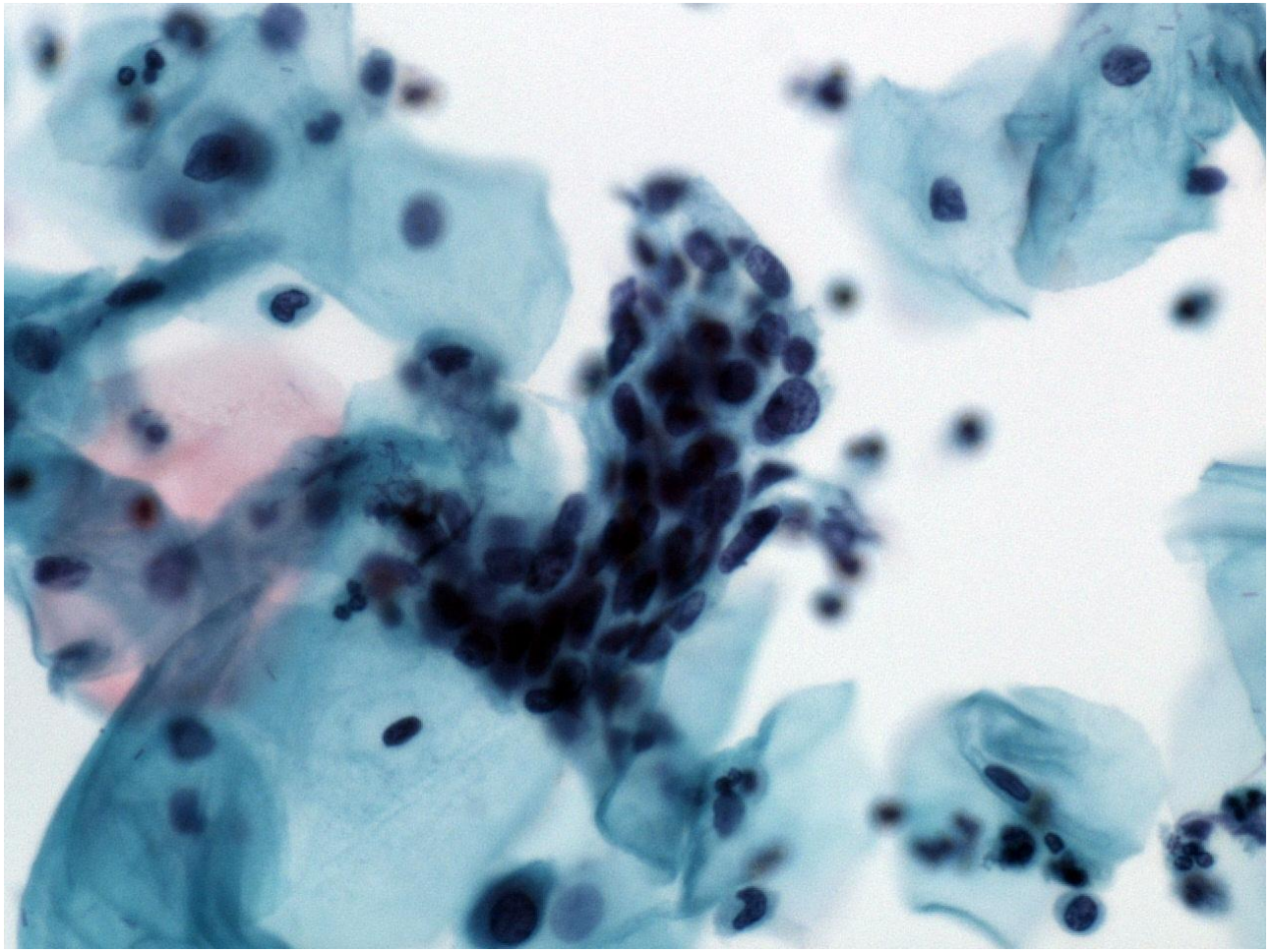
If this a problem for diagnosis, then short course of vaginal oestrogen helpful. When no suspicion of malignancy, wait until oestrogenic state returned to normal before undertaking colposcopy and/or treatment.

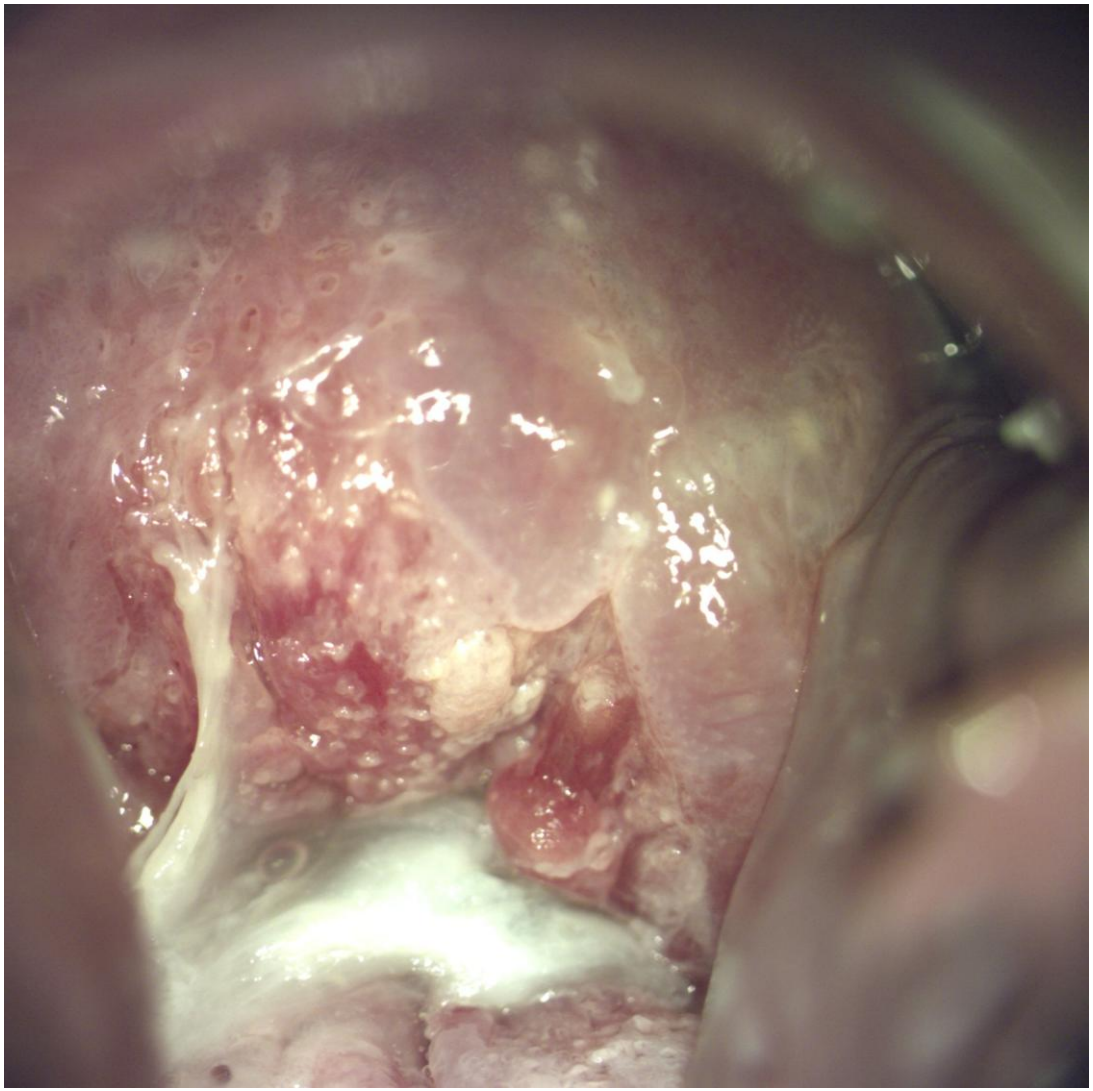
Evidence: low regression rates for pre-invasive cervical disease during pregnancy/ following delivery from retrospective uncontrolled studies/ regression not related to mode of delivery (Ackermann et al, 2006; Everson et al, 2002). Retrospective study of pregnant women treated by cone biopsy for HG CIN/ microinvasion reported high rates of disease persistence (Lapolla et al, 1988).

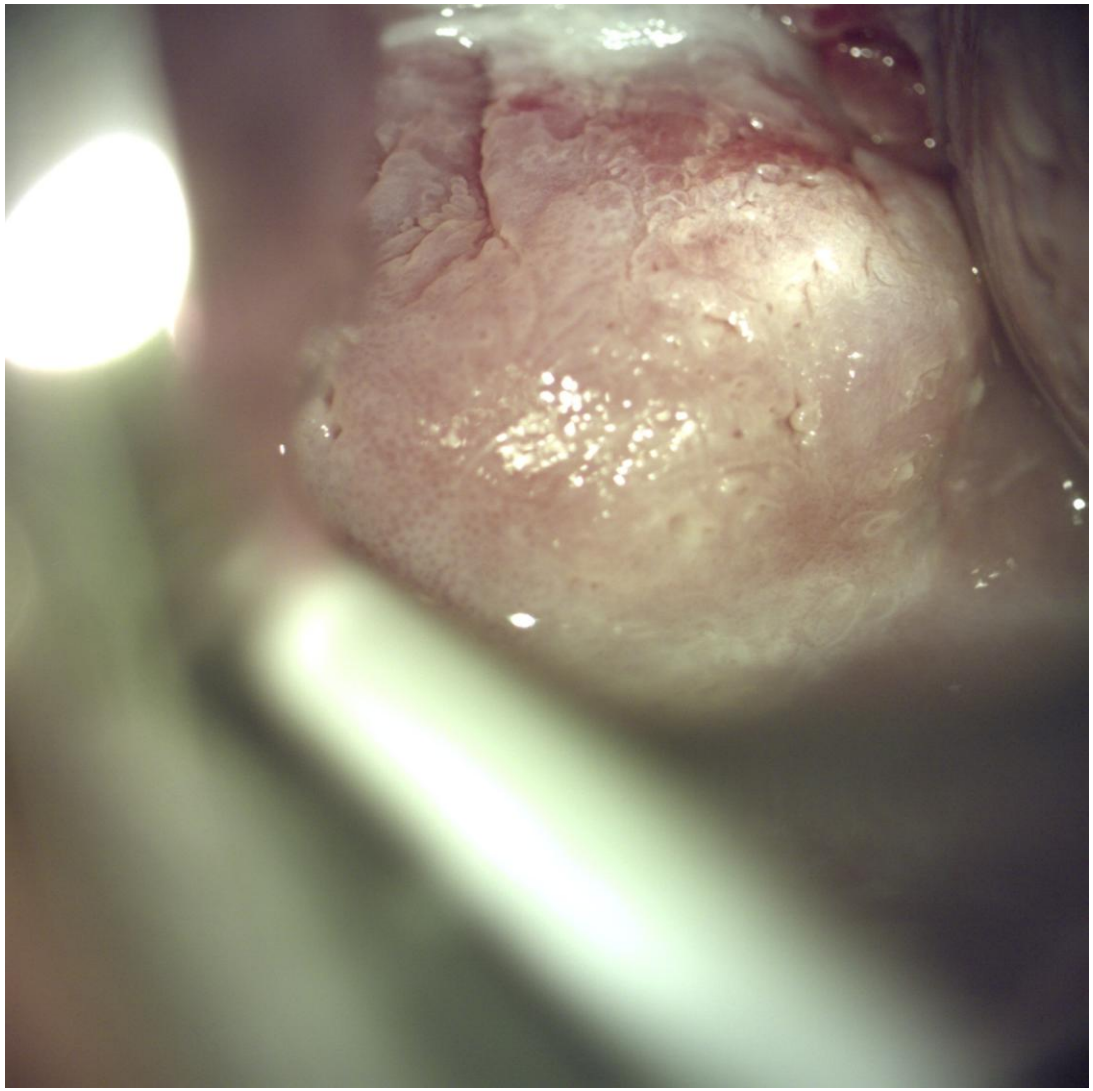
Ackermann et al. 2006; Everson et al. 2002; Lapolla et al. 1988.

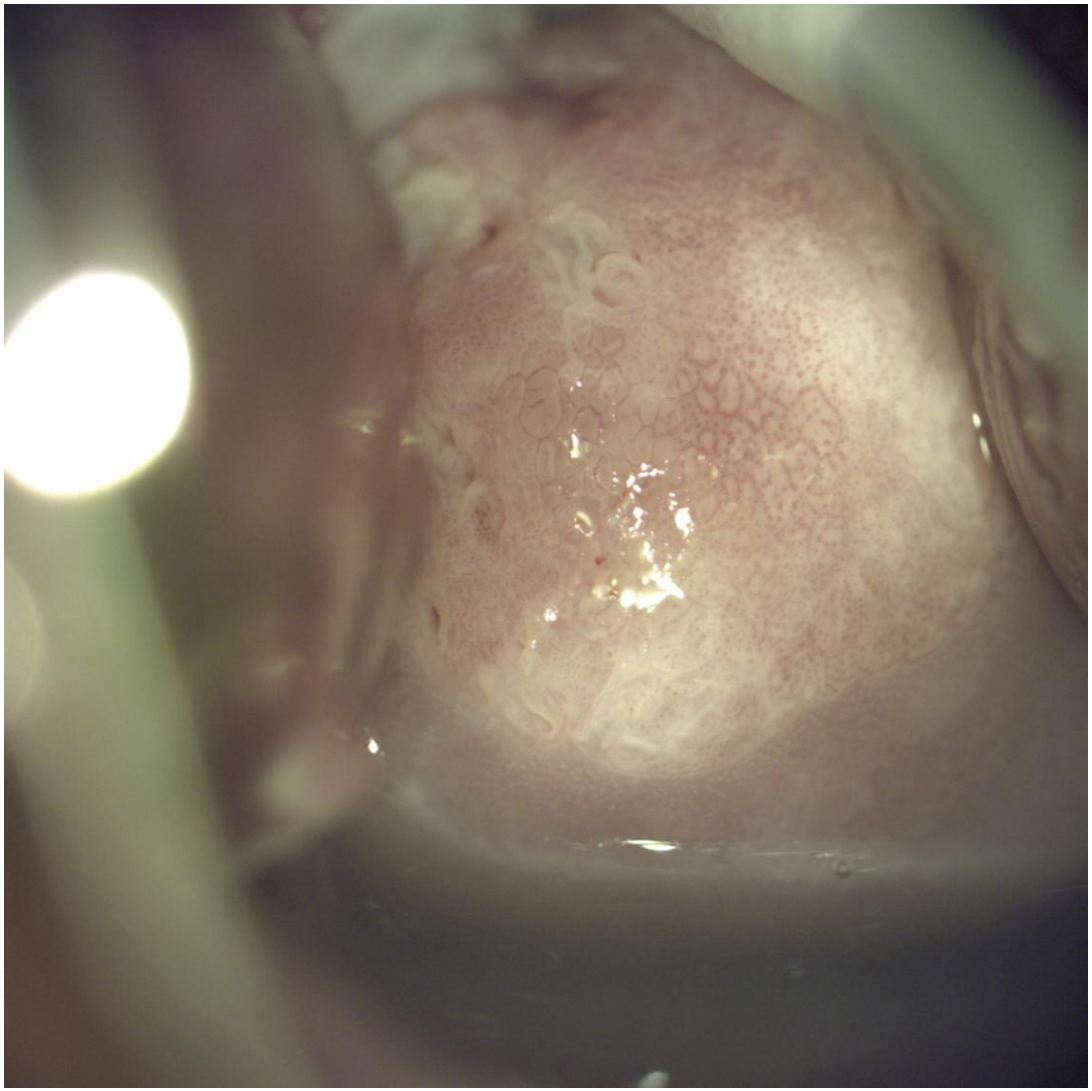
Case

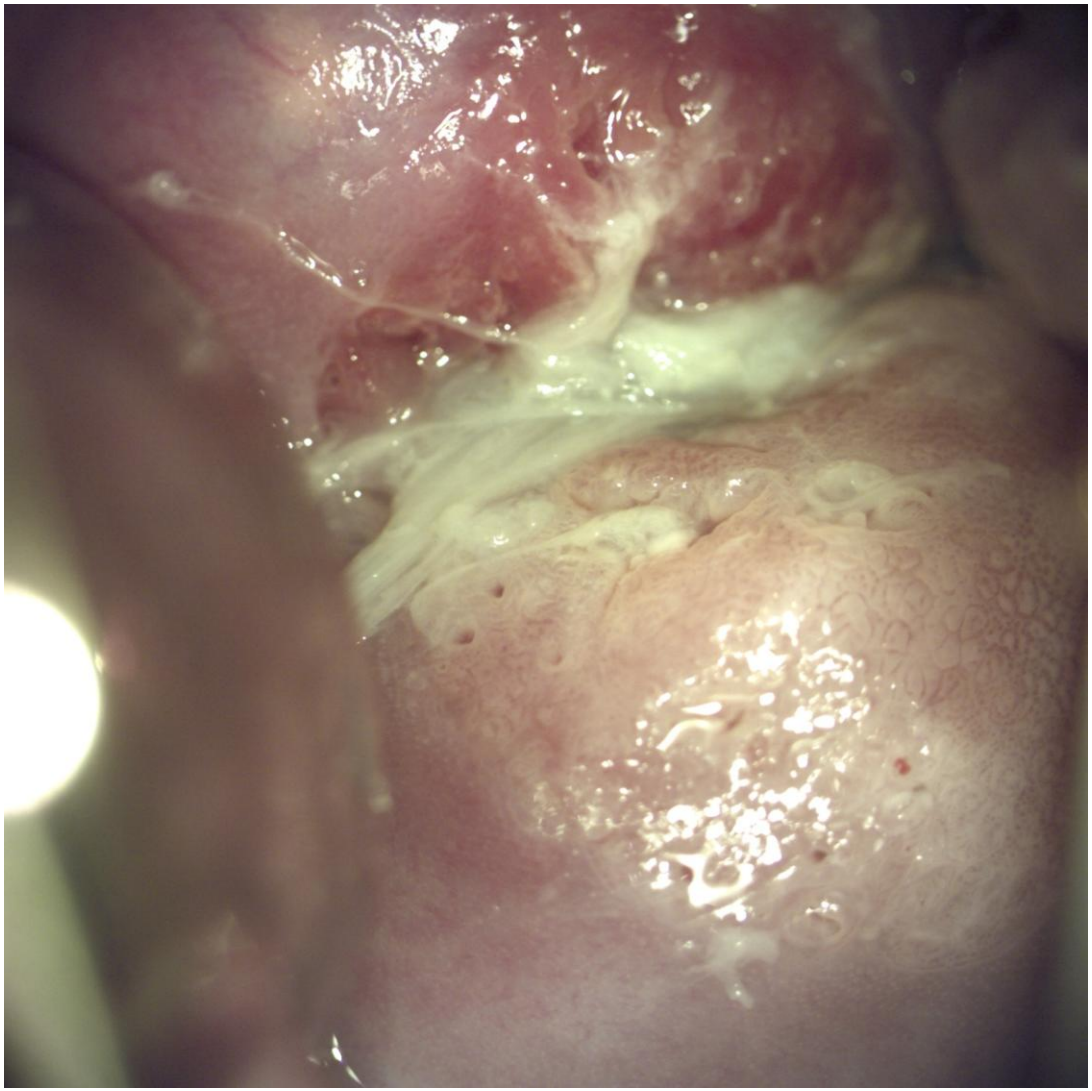
- 27yr
- Ref cytology HG dyskaryosis (favour severe) or LIEHG
- No previous colposcopy
- P4
- Moderate smoker
- Seen colp 12/40 pregnant

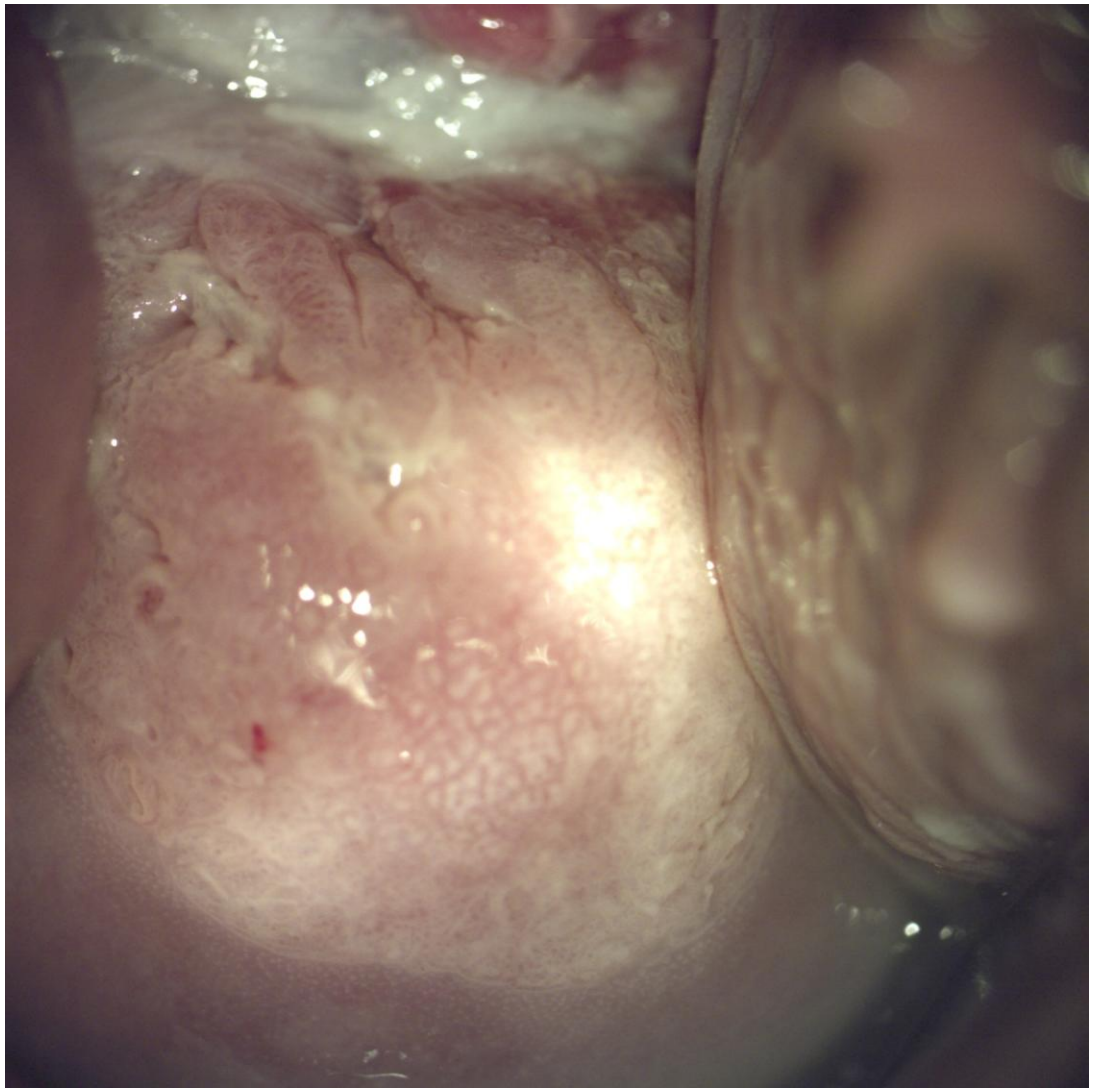




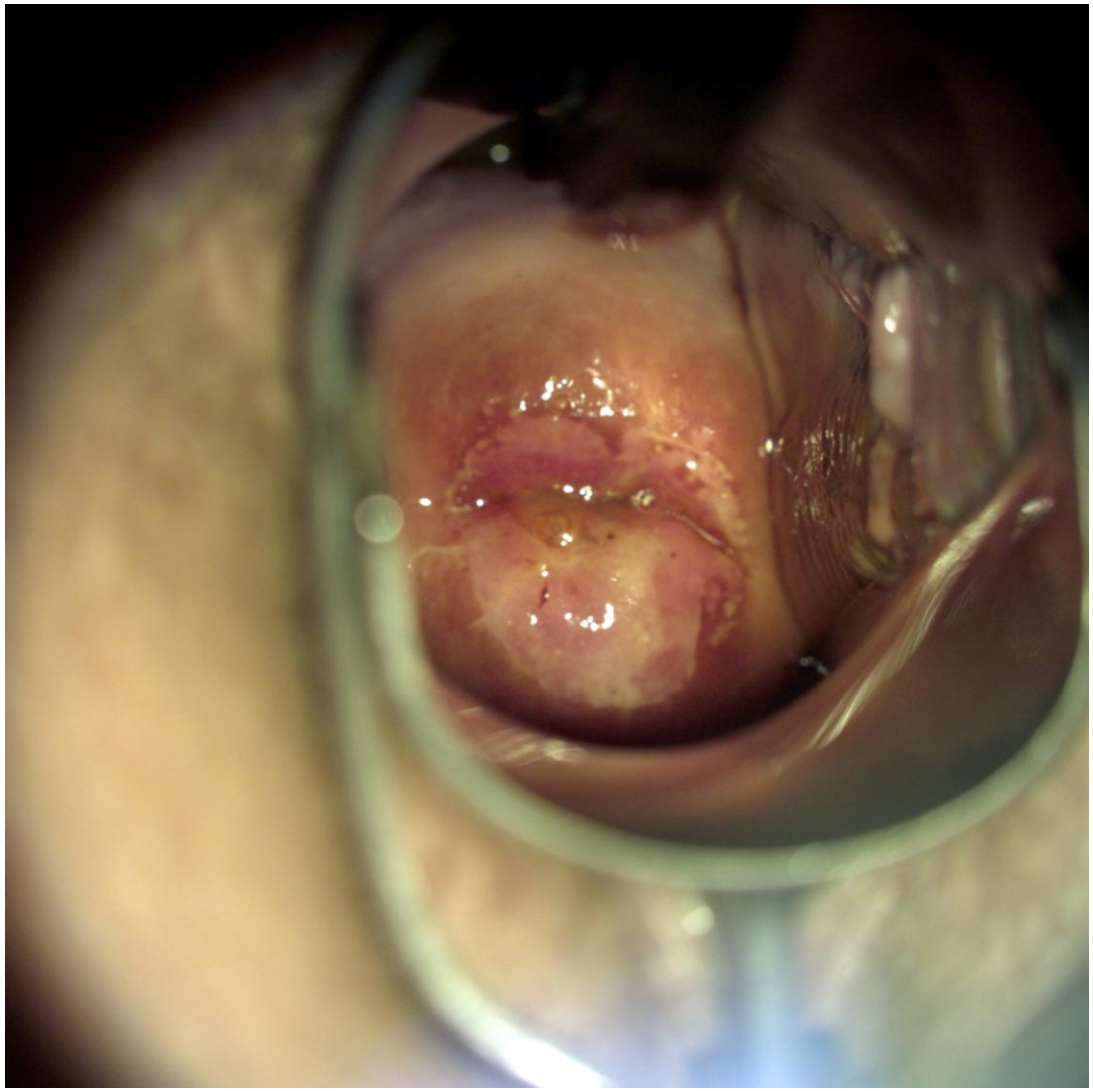




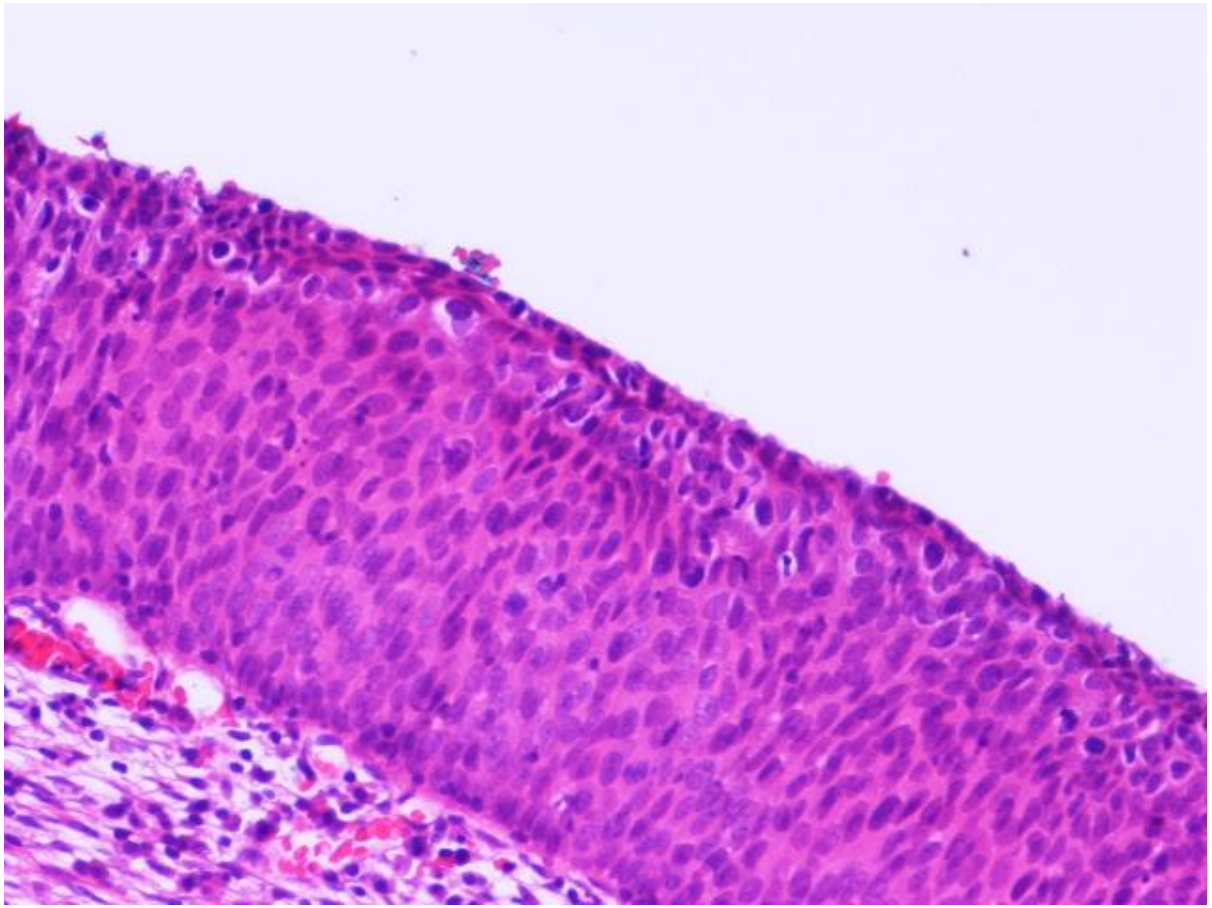




- Seen colp 29/40 pregnant
- Del 21.01.10 - 3.94kg female LSCS
- Seen in colp 4 months later

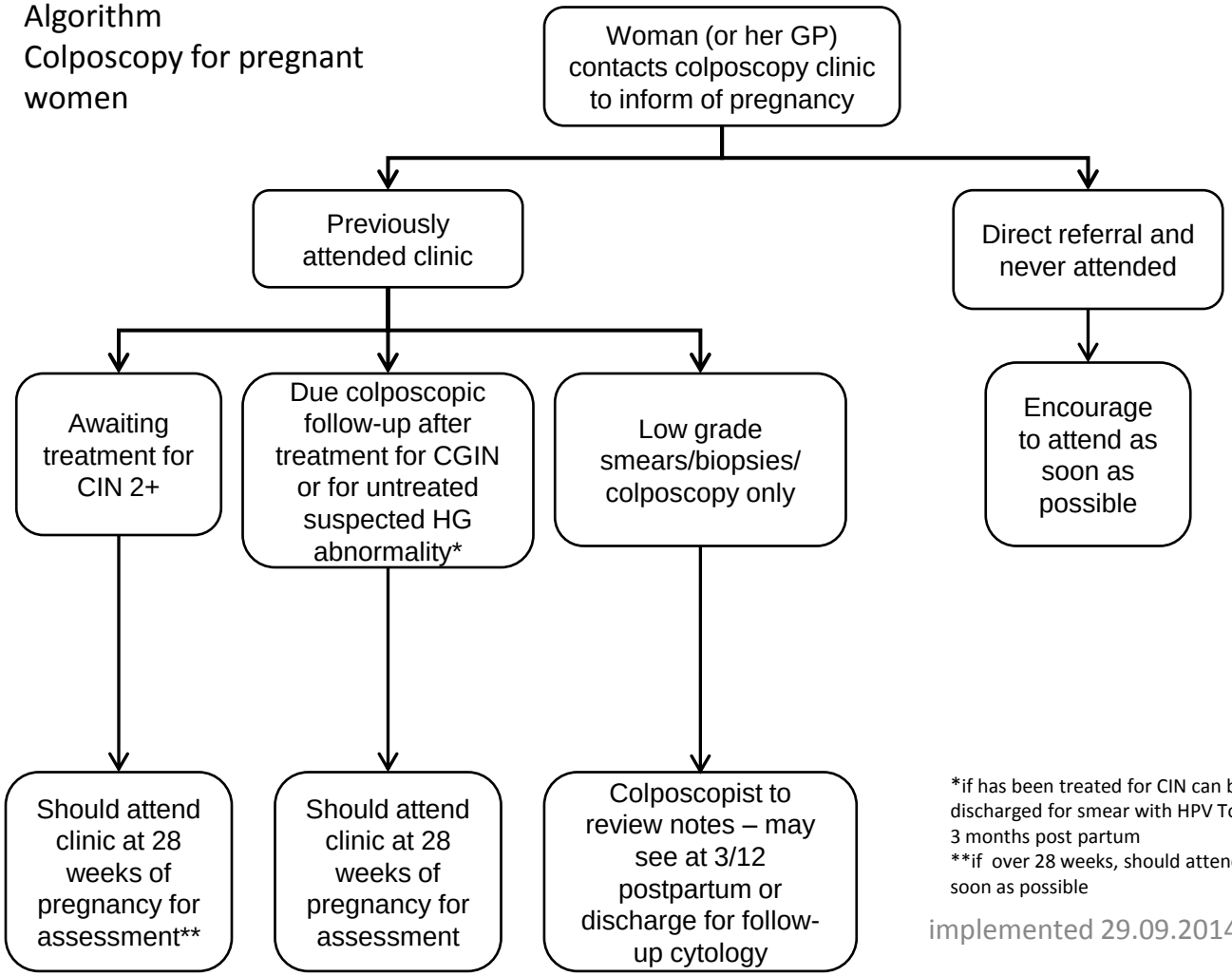


- Loop 20 x 15 x 10mm



Quit smoking!

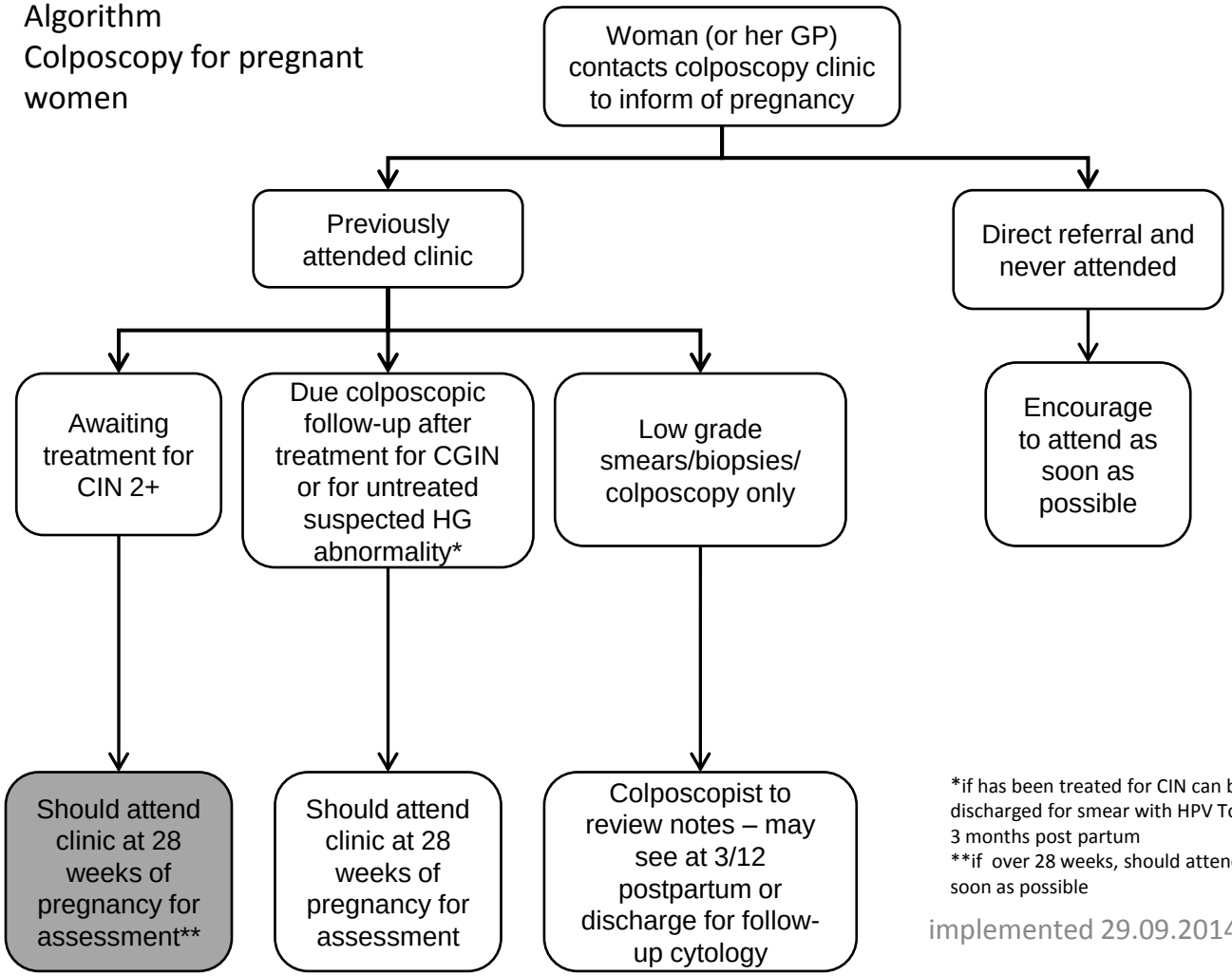
Algorithm
Colposcopy for pregnant women



*if has been treated for CIN can be discharged for smear with HPV ToC at 3 months post partum
**if over 28 weeks, should attend as soon as possible

implemented 29.09.2014

Algorithm
Colposcopy for pregnant women



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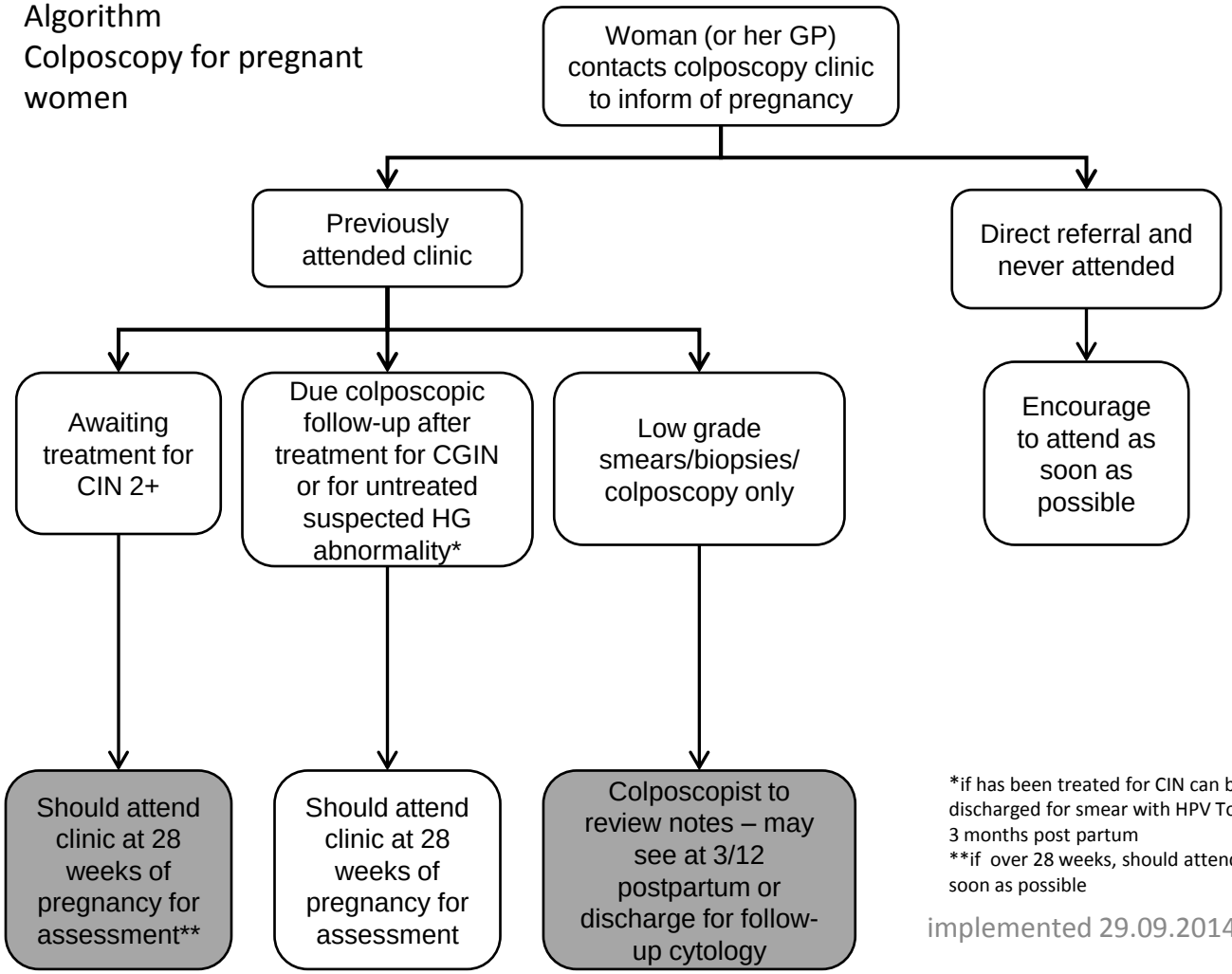
Colposcopy for pregnant women



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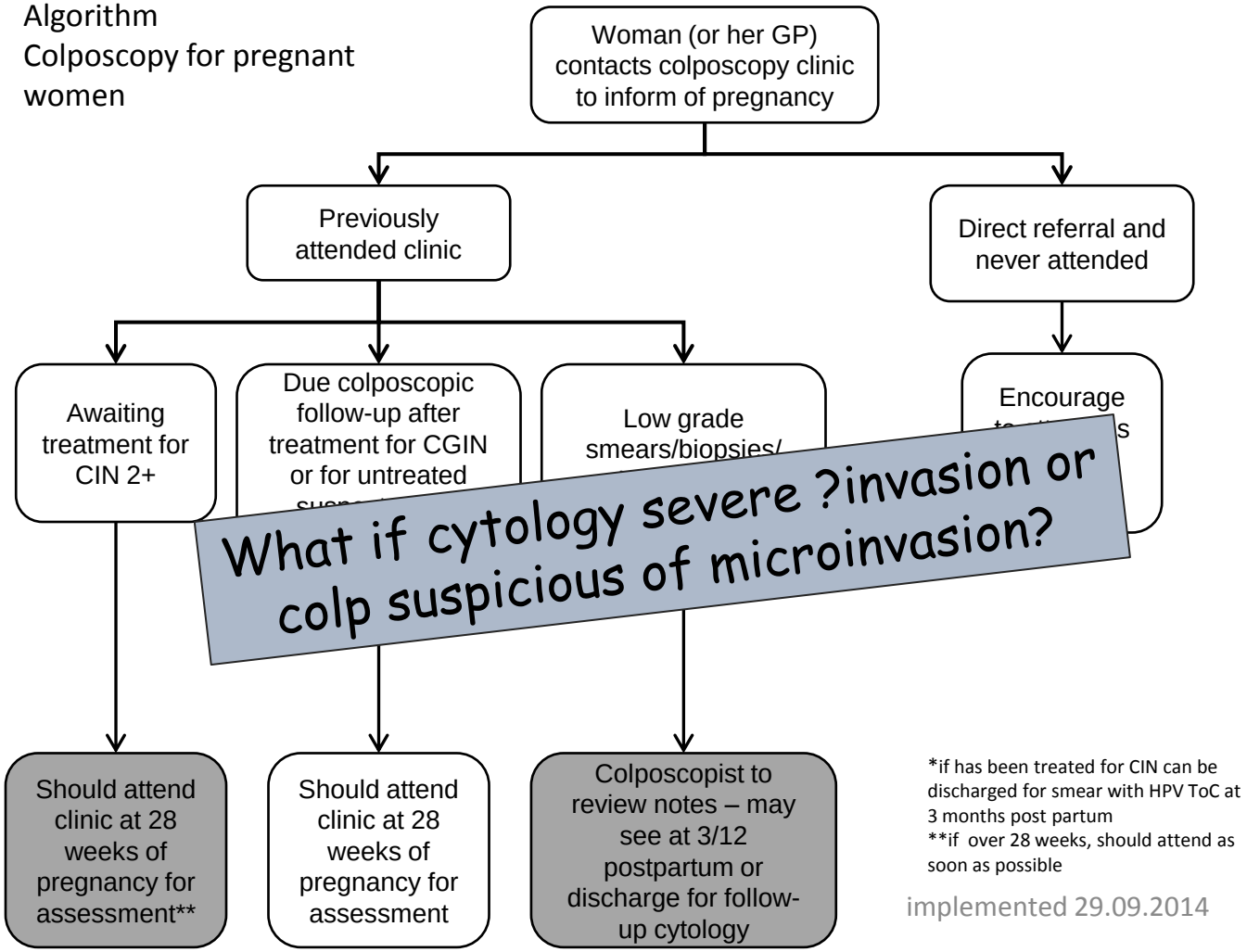
Colposcopy for pregnant women



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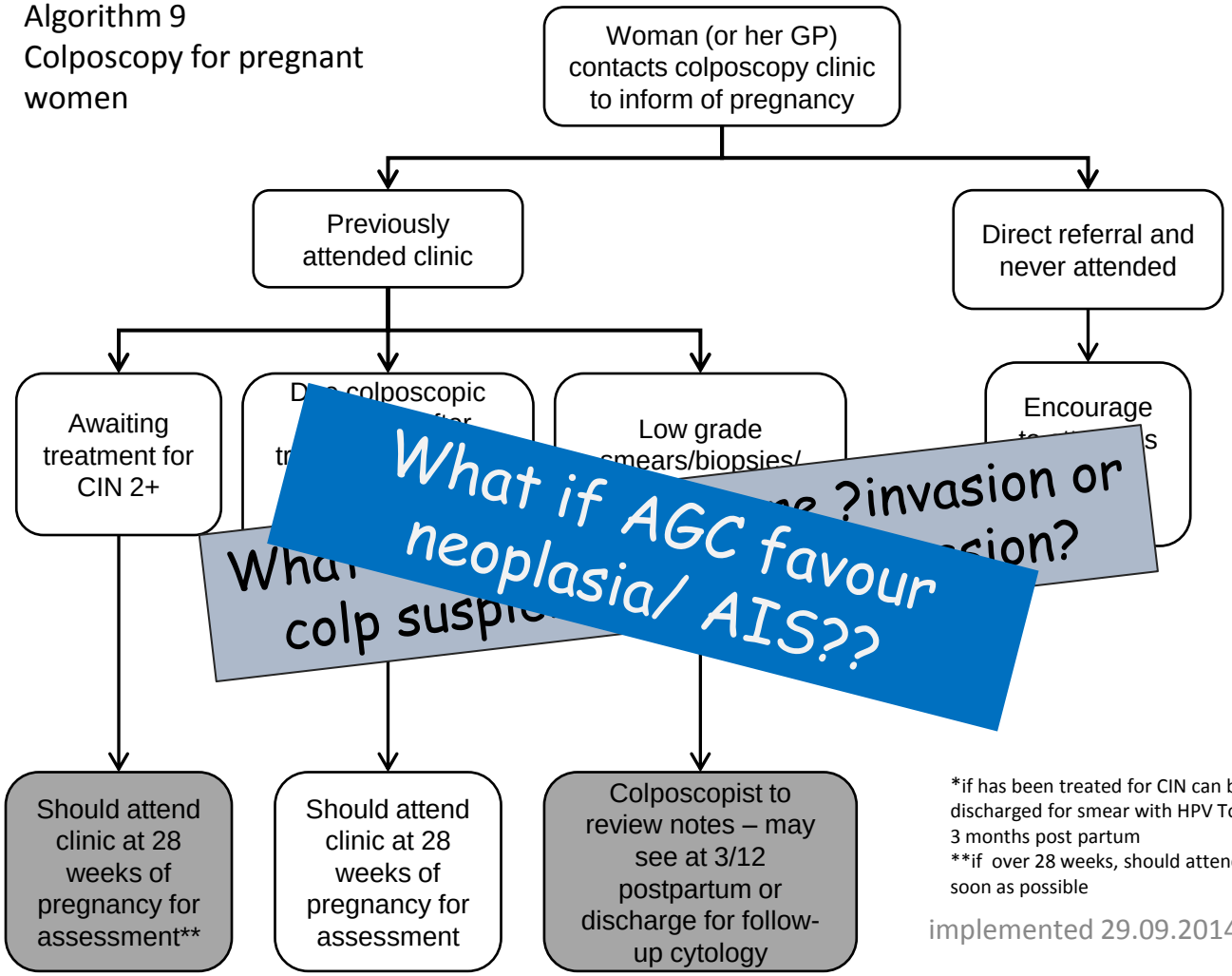
Algorithm 9
Colposcopy for pregnant women



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implemented 29.09.2014

- Biopsy acceptable for HSIL.
- In absence of invasive disease/ advanced pregnancy, additional colposcopic/ cytologic examinations acceptable in pregnant women.
- Colposcopy repeated for CIN 2-3 at intervals no more frequent than every 12 weeks. Repeat biopsy recommended only if appearance of lesion worsens/ if cytology suggests invasive cancer. Deferring re-evaluation until at least 6 weeks postpartum acceptable.
- Diagnostic excisional procedure recommended only if invasion suspected. Unless invasive cancer identified, treatment is unacceptable.
- Re-evaluation with cytology/ colposcopy recommended no sooner than 6 weeks postpartum (Massad et al, 2013).

Conclusion

- Colposcopy is difficult to perform in pregnancy
- It is uncomfortable in pregnancy. Natural history of CIN means that delay is possible for the majority of cases. Be careful to identify cancer in pregnancy.
- Biopsies can be taken in pregnancy.
- Assessment by an experienced colposcopist is important.