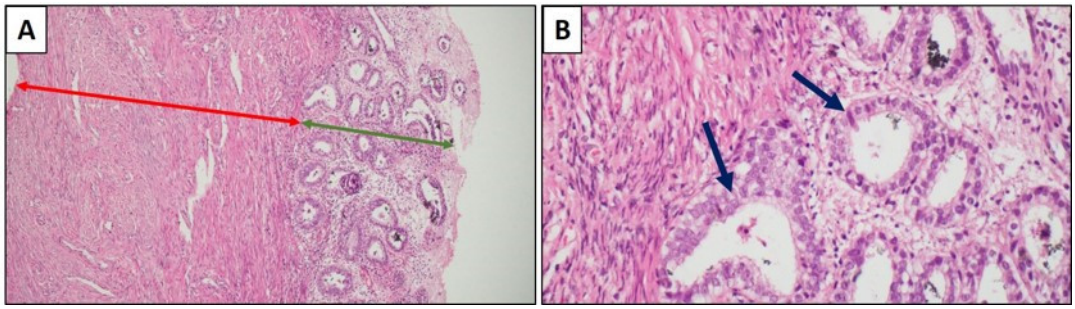
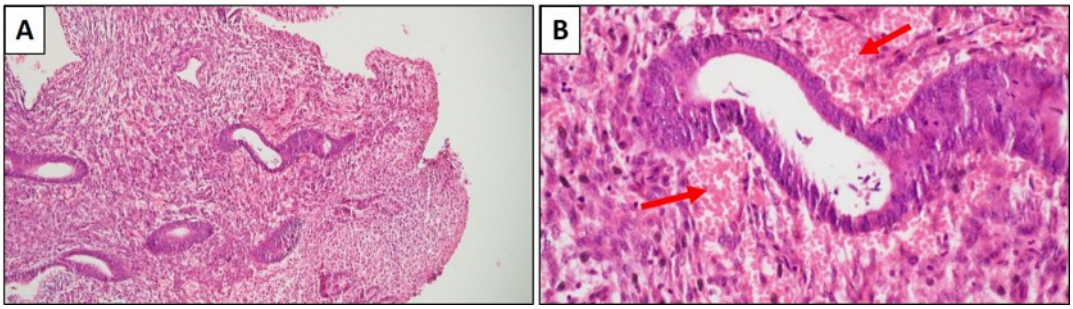
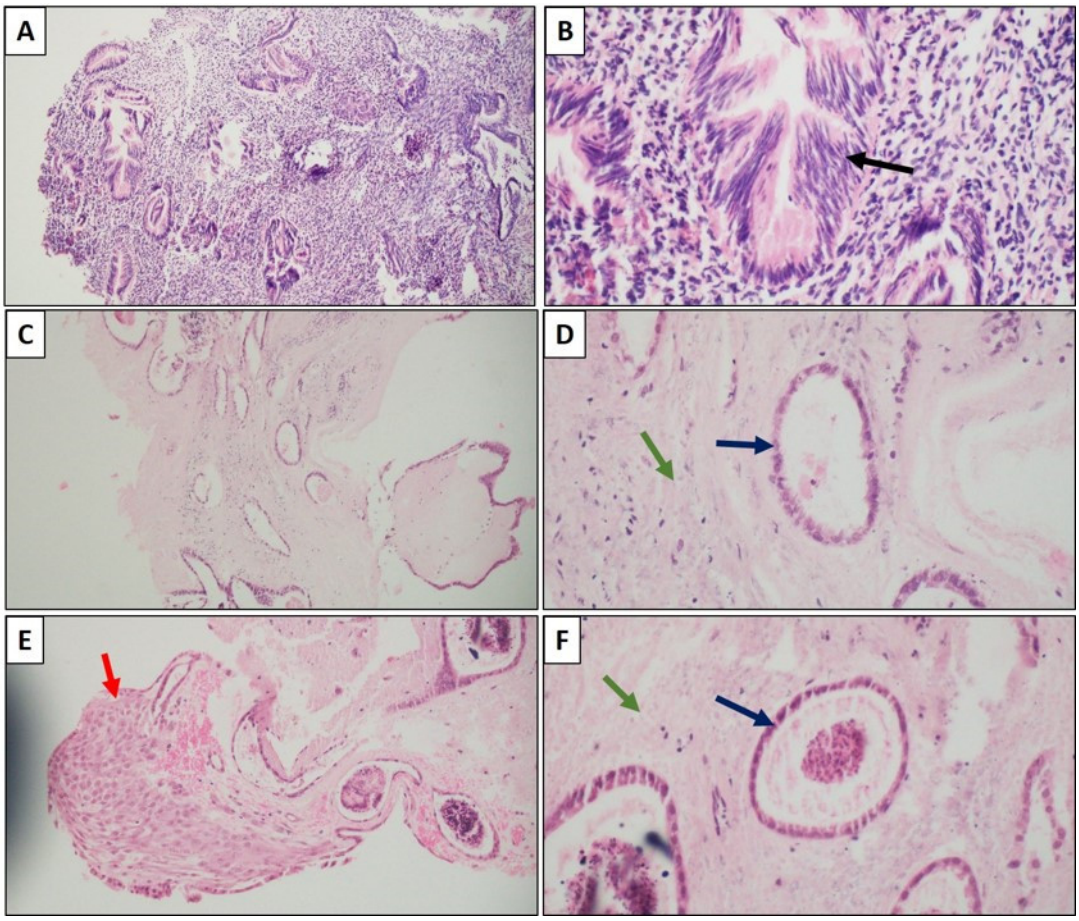


Supplementary Figure S1. *Case 1 endometrium – H&E staining, 10× (A) and 40× (B) magnifications of 'Fresh' sample*
A: Beneath the secretory phase endometrium (green band) sample is composed of a relatively thick myometrium layer (red band)
B: Blue arrows show secretory phase endometrial glands.



Supplementary Figure S2. *Case 2 endometrium – H&E staining, 10× (A) and 40× (B) magnifications of 'Fresh' sample*
Red arrows show interstitial haemorrhage (artificial injury)

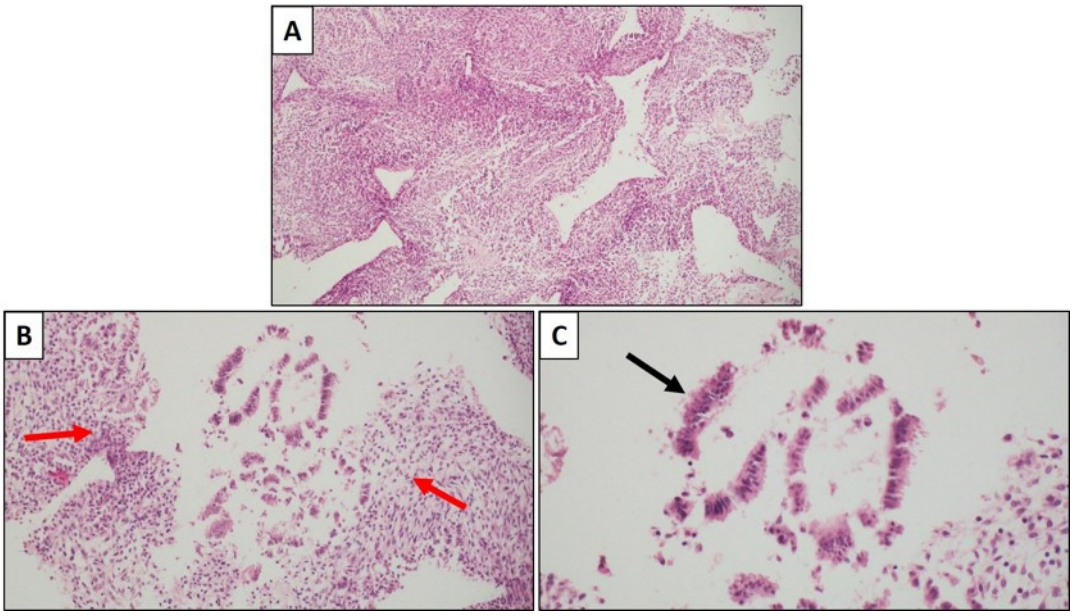


Supplementary Figure S3. *Case 3 endometrium – H&E staining, 10× (A, C), 20× (E) and 40× magnifications (B, D, F)*

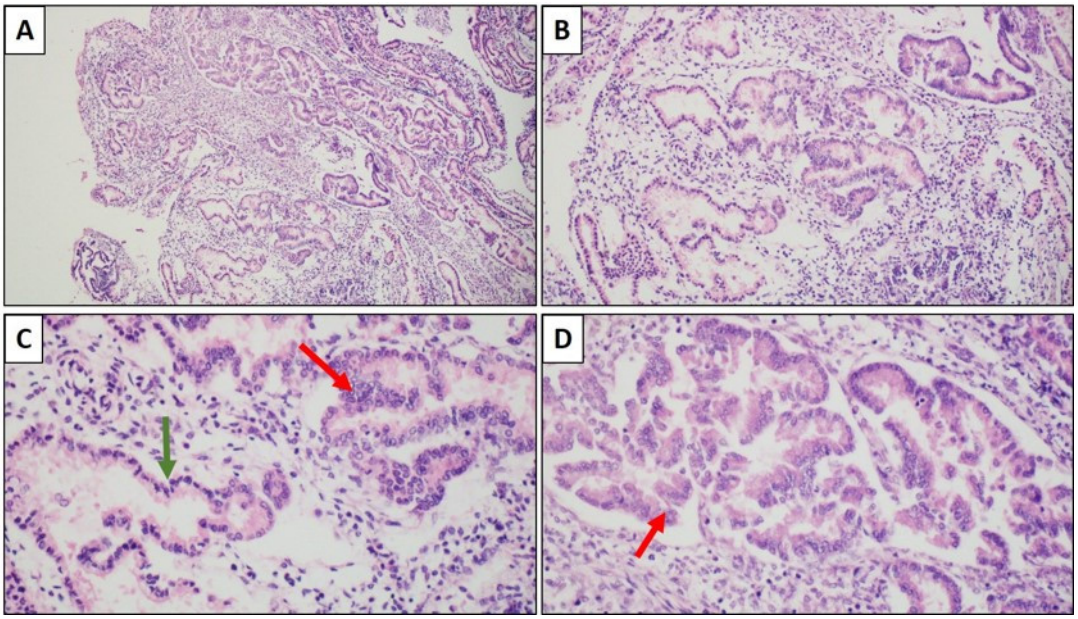
A & B: 'Fresh' sample, black arrow shows mechanical injury of endometrial glands (artificial injury)

C & D: Control cultured sample, green arrow shows stromal necrosis around endometrial glands (blue arrow)

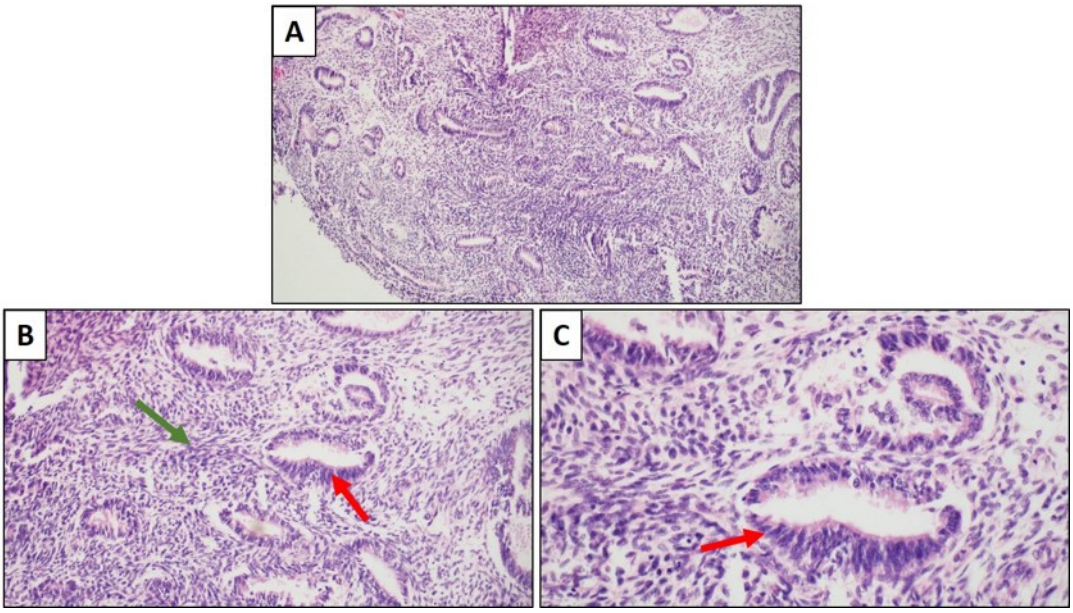
E & F: Hormone treated and cultured sample, red arrow shows squamous cell metaplasia, stromal necrosis (green arrow) can be seen around endometrial glands (blue arrow)



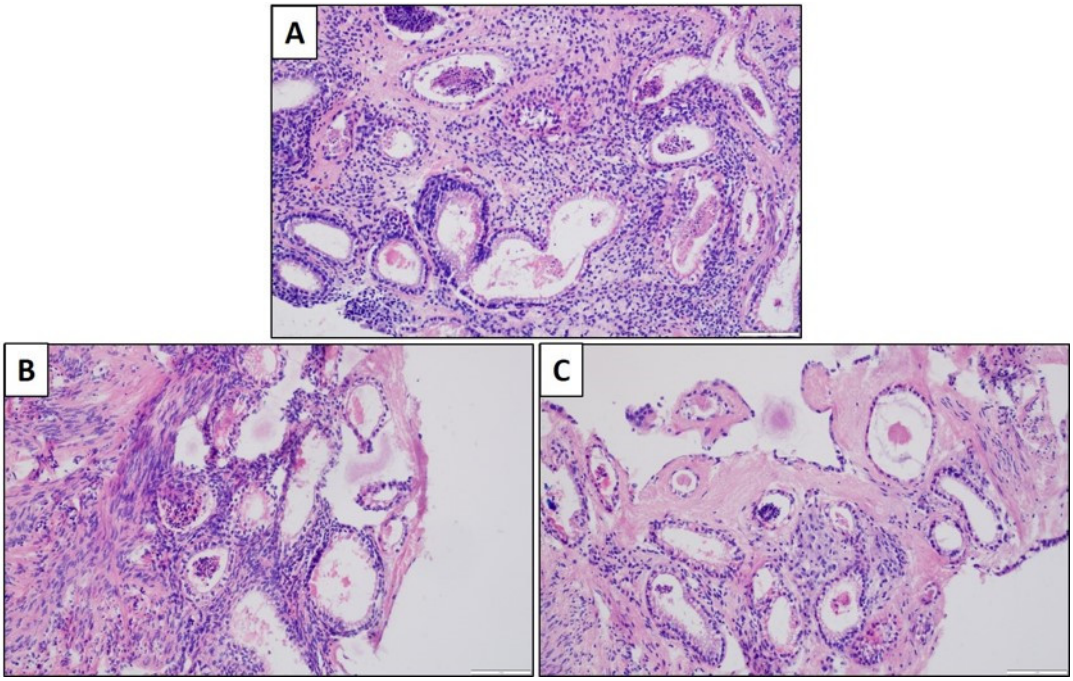
Supplementary Figure S4. *Case 4 endometrium – H&E staining, 10× (A), 20× (B) and 40× (C) magnifications of 'Fresh' sample*
Black arrow shows endometrial gland cells separated from the stroma (red arrows)



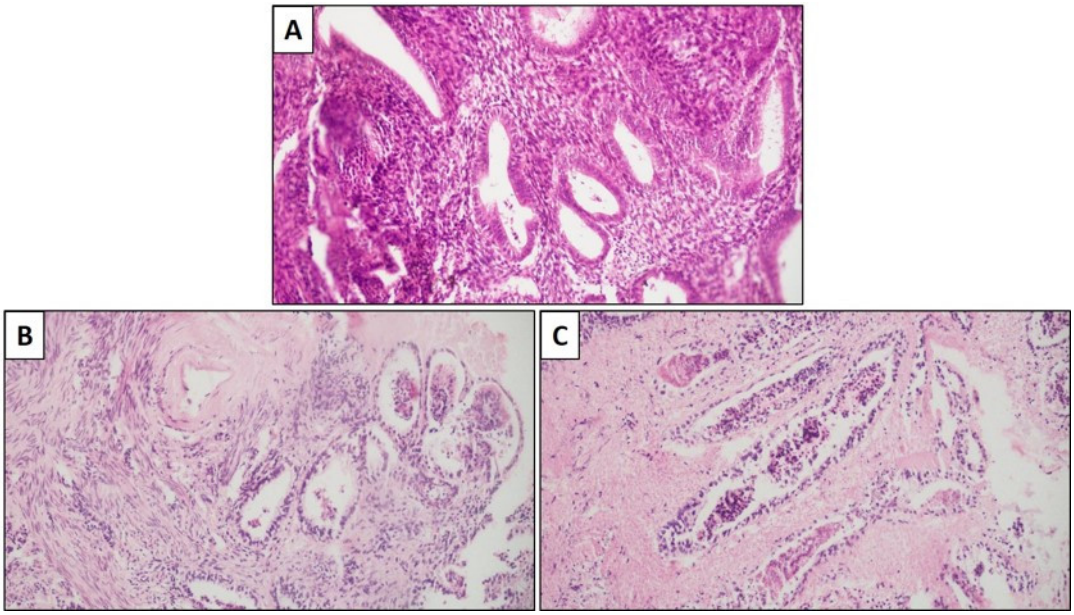
Supplementary Figure S5. *Case 5 endometrium – H&E staining, 10× (A), 20× (B) and 40× (C, D) magnifications of 'Fresh' sample*
Proliferative (green arrow) and secretory phase (red arrow) endometrial glands can be seen alongside each other



Supplementary Figure S6. *Case 6 endometrium – H&E staining, 10× (A), 20× (B) and 40× (C) magnifications of 'Fresh' sample*
Secretory phase endometrial glands (red arrow) are embedded to the proliferative phase stroma (green arrow)



Supplementary Figure S7. *Case 7 endometrium – H&E staining, 20× magnifications*
A: 'Fresh' sample, B: Control cultured sample, C: Hormone treated and cultured sample



Supplementary Figure S8. *Case 8 endometrium – H&E staining, 20× magnifications*
A: 'Fresh' sample, B: Control cultured sample, C: Hormone treated and cultured sample