# KORELASI INTENSITAS SINYAL DWI DAN NILAI ADC DENGAN HASIL SITOLOGI PAP SMEAR UNTUK MENILAI HASIL TERAPI PADA PASIEN KANKER SERVIKS PASCATERAPI

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## INTISARI

**Latar belakang :** *Diffusion-Weighted Imaging* (DWI), *Apparent diffusion coefficient* (ADC), Pap smear untuk mengetahui hasil terapi

**Tujuan penelitian :** Mengetahui hubungan intensitas sinyal DWI, nilai ADC dengan hasil sitologi pap smear untuk menilai hasil terapi pasien kanker serviks pascaterapi.

**Bahan dan cara :** Penelitian observasional analitik korelasi *cross-sectional,* subyek data sekunder, *consecutive non-random sampling.* Subyek penelitian hasil MRI pelvis 1,5T pascaterapi RSUP Dr. Sardjito Yogyakarta Maret 2017 - Februari 2022. Intensitas sinyal DWI *non restricted, slight restricted, partial restricted, dan restricted,* hasil terapi residu*, residive*, fibrosis, tak tampak residu/*residive*, sikatriks. Nilai ADC menggunakan ROI *(Region of Interest)* sekuens DWI, dikorelasikan dengan uji korelasi Spearman. Hasil pap smear tidak terdapat sel ganas, terdapat sel ganas, diskariotik.

**Hasil :** Diperoleh 36 subyek penelitian, *restricted* 21 (58,3%), residu 21 (58,3%). Median ADC $1,25 \times 10^{-3} mm^2/s$, terendah $0,68 \times 10^{-3} mm^2/s$, tertinggi $2,23 \times 10^{-3} mm^2/s$, pap smear pascaterapi tidak terdapat sel ganas 27 subyek (75,0%). Hasil pap smear tidak terdapat sel ganas pada DWI *non restricted* (72,7%), *slight restricted* (100,0%), *partial restricted* (100,0%), *restricted* (71,4%). Korelasi p=0,614 tidak ada hubungan bermakna intensitas sinyal sekuen DWI dengan hasil pap smear, koefisien korelasi sangat lemah 0,087 (<0,2). Median ADC tertinggi subyek tidak ditemukan sel ganas $1,27 \times 10^{-3} mm^2/s$, diskariotik $1,21 \times 10^{-3} mm^2/s$, terendah pada terdapat sel ganas $1,17 \times 10^{-3} mm^2/s$. Hasil Korelasi Spearman tidak terdapat korelasi yang bermakna nilai ADC dengan hasil pemeriksaan pap smear p=0,427 (p>0,05). Koefisien korelasi -0,137 (< 0,2). Koefisien *negative* semakin tinggi ADC semakin tidak terdapat sel ganas.

**Kesimpulan :** Korelasi nilai p=0,614 tidak ada hubungan bermakna intensitas sinyal DWI dengan hasil pap smear, koefisien korelasi 0,087 (<0,2). Korelasi Spearman tidak terdapat korelasi yang bermakna nilai ADC dengan hasil pap smear p=0,427 (p>0,05). Koefisien korelasi -0,137 (< 0,2). Koefisien *negative*, semakin tinggi ADC semakin tidak terdapat sel ganas.

**Kata Kunci :** Kanker serviks pasca terapi, intensitas sinyal DWI, nilai ADC, pap smear

# CORRELATION BETWEEN DWI SIGNAL INTENSITY AND ADC VALUE WITH CYTOLOGY PAP SMEAR TO ASSESS THE RESULT OF THERAPY ON POST THERAPY UTERINE CERVICAL CARCINOMA PATIENT

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## ABSTRACT

**Background :** *Diffusion-Weighted Imaging* (DWI), *Apparent diffusion coefficient* (ADC), Pap smear
were used to assess the result of therapy

**Objective :** Understanding the correlation between DWI signal intensity, ADC value with cytology pap smear to assess the result of therapy on post therapy uterine cervical carcinoma.

**Material and methods :** A cross-sectional correlation analytic observational study, secondary data, consecutive non-random sampling. Subjects are pelvic MRI 1,5T post therapy at Dr. Sardjito Hospital March 2017-February 2022. DWI signal intensity non restricted, slight restricted, partial restricted, restricted, therapy result residual, residive, fibrotic, no residual/residive, cicatrix, pap smear with malignant cells, no malignanat cells, dyscariosis. ADC value was measured with ROI (Region of Interest) on DWI sequence, correlated with Spearman correlation test.

**Result :** There were 36 subject, mean age 51,25 years, DWI restricted 21 (58,3%), residual 21 (58,3%), pap smear post therapy no malignant cells 27 (75,0%). Pap smear result no malignant cells on DWI non restricted (72,7%), slight restricted (100,0%), partial restricted (100,0%), restricted (71,4%). Correlation p=0,614, no significant correlation between DWI signal intensity with the pap smear, correlation coefficient 0,087 (<0,2). Highest median ADC value for no malignant cells 1,27 x$10^{-3}$mm$^2$/s, dyscariosis 1,21 x$10^{-3}$mm$^2$/s, the lowest was on malignant cells 1,17 x$10^{-3}$mm$^2$/s. No significant correlation between ADC value with pap smear p=0,427. Correlation coefficient -0,137 (< 0,2). The coefficient is negative, the higher ADC value the more possible there are no malignant cells.

**Conclusion :** The correlation result p=0,614, which mean there is no significant correlation between DWI intensity with the pap smear, correlation coefficient 0,087 (<0,2). No significant correlation between ADC value with pap smear p=0,427, correlation coefficient -0,137 (< 0,2). The coefficient is negative, the higher ADC value the more possible no malignant cells.

**Key words :** Post therapy uterine cervical cancer, DWI signal intensity, ADC value, pap smear