8th January 2020

Amendment to Chapter 2 of DPhil Thesis

On re-analysis of the data, the responsible PET analyst and statistician, Dr Christopher Coello of Imanova Ltd. (now known as Invicro Ltd. https://invicro.com, the collaborators for this work, responsible for calculation of tracer binding values), noticed that unfortunately he had not accounted for the radioactive decay in his calculation of SUV for healthy control joints at 50-70 minutes, as had been stipulated in the Methodology of this thesis. This means that in fact, healthy controls' SUV data were only slightly higher than that reported in the original thesis (page 90) This ***does not affect*** the significance of results obtained, demonstrating higher SUV in arthritis patients than controls, but does change the numerical values for SUV for healthy controls. This amendment does not affect SUVR data for healthy controls.

Thus, the following figures (**2.5C- p87 & 2.7 B&C- p90**), table (**2.8- p90**) and text (**p93**) have been amended to correct for the inadvertent error- corrections are highlighted in Red:

Figure 2.5C; page 86; colourimetry for healthy controls should be replaced with the figure below:

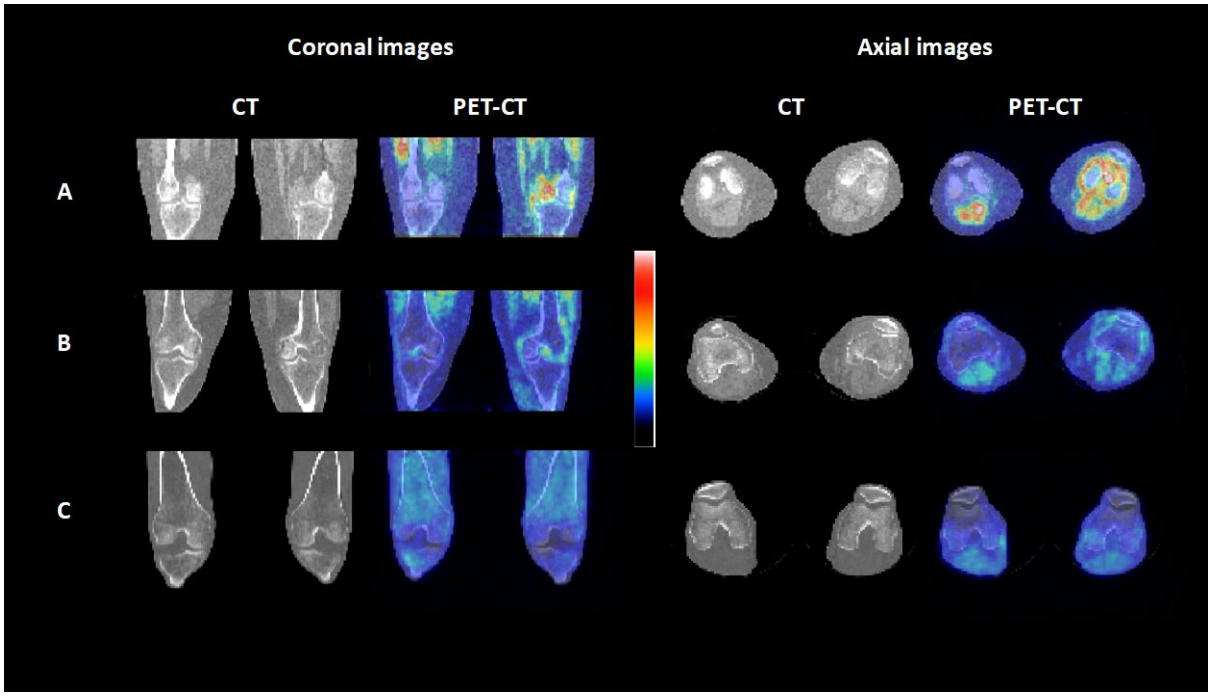


Figure 2.5: A: moderate affinity binder patient with clinically severe synovitis of left knee. **B**: moderate affinity binder patient with clinically mild synovitis of left knee **C:** moderate affinity binder healthy control. SUV scale =0-2.

Table 2.8; page 89, first row, second and third columns (MAB and HAB healthy control SUV) should be replaced with the table below:

Clinical synovitis severity score	**SUVR (28 joints)** Mean ± SD	**SUV (MAB) (16 joints)** Mean ± SD	**SUV (HAB) (12 joints)** Mean ± SD
0 (Control)	0.93 ± 0.22	0.12 ± 0.01 (2 joints)	0.21 ± 0.007 (6 joints)
0 (arthritis patient)	1.33 ± 0.31	0.12 ± 0.02 (2 joints)	0.238 (1 joint)
1	1.67±0.11	0.34 ± 0.07 (6 joints)	N/D*
2	2.18 ± 0.34	0.51 ± 0.10 (5 joints)	0.81 (1 joint)
3	3.16 ± 0.60	0.79 (1 joint)	0.97 ± 0.05 (4 joints)

Table 2.8: Summary of [^{11}C]PBR28 uptake measures ± SD (standard deviation), according to clinical synovitis severity score. N/D* =no data available.

Figure 2.7B & 2.7C; page 89 .

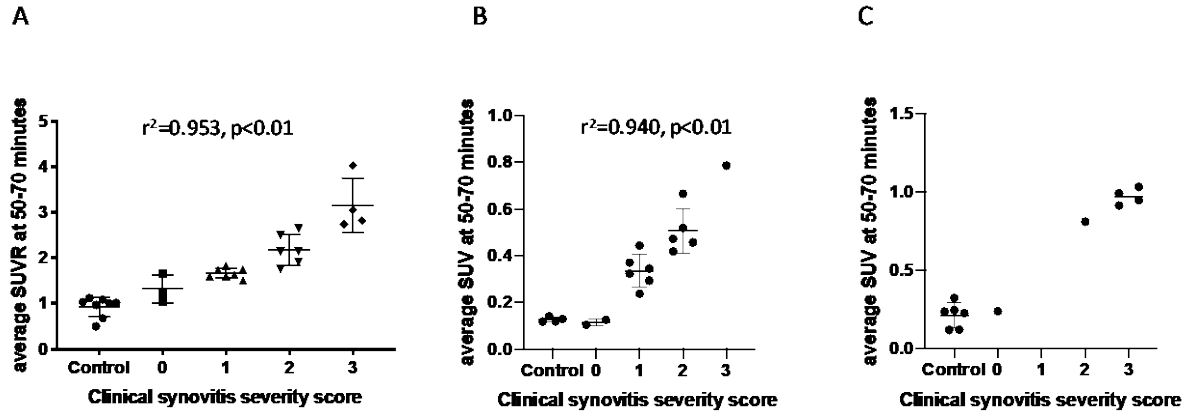


Figure 2.7: average tracer uptake for each joint imaged with [^{11}C]BPR28 PET, grouped according to clinical synovitis severity score. Each point represents average SUVR or SUV for one joint **A:** average SUVR for all participants **B:** average SUV for moderate affinity binder participants; **C:** average SUV for high affinity binder participants.

Page 94, paragraph 3

The sentence: "*Interestingly, both SUVR and SUV were lower in healthy control joints compared to clinically non-inflamed joints in arthritis patients*" should read "*Interestingly SUVR was lower in healthy control joints compared to clinically non-inflamed joints in arthritis patients*".

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