Department of Statistics

BMedSci/MMedSci/DipMedSci Practical

Analysis of Variance

1. The following data were collected in an experiment on melanogenesis. The experiment was performed on human foreskins (up to 7 years old). Each foreskin was divided into three; different amounts of 1-oleyl-2-acetyl glycerol (OAG) were added and the tissue was exposed to UV radiation. The first column gives the melanin content obtained at the end of the experiment and the second column indicates the amount of OAG added, the third denotes which foreskin sample was used and can be ignored in the initial analysis.

7.8	0	1
15.3	1	1
18.5	3	1
6.2	0	2
11.3	1	2
24.2	3	2
11.2	0	3
17.4	1	3
29.8	3	3
1.8	0	4
3.3	1	4
7.1	3	4

Is there evidence of a difference in melanin levels between the doses of OAG? Analyse the data presented above. Is the assumption of Normality reasonable? Can you see where the trouble is? What other approaches may you try? [Hint: for ideas look in the **Anova** section of the **Stat** menu: this goes beyond what was covered in the lecture].