### (See page 40)

### Part one

### Part two/ three/ four

# Part five

- Q1 (a), (b), (c), (d). Stevens Johnson syndrome has been reported for many years as being stimulated by medications and infections, but its link to the use of skin bleaching agents is relatively new. Anita had been to an unqualified practitioner (recommended by a friend) who had given her an intravenous injection of glutathione (a tripeptide of cysteine, glycine and glutamate, none of which given separately are generally thought to be toxic).
- (a), (b), (c), (d). In previously healthy children Stevens Johnson syndrome is almost always the result of a viral infection.
- Q3 (a), (b), (c), (d), (e). All five of the above have been recorded as having been used as skin lightening agents, with the inevitable consequences of irritant and allergic contact dermatitis, infections, hypertension, renal disease and even diabetes mellitus.
- Q4 (d), (e). There have been clinical trials in Thailand of glutathione given orally (not parenterally) that have reported skin lightening in 30 patients, whether or not exposed to the sun, with a similar result in another 30 patients given glutathione along with multiple vitamins, selenium and grape seed extract. The mechanisms described above are the basis on which these very short and small trials were conducted. There are no publications or reports of trials of parenteral glutathione, although it is being very widely used across tropical countries, and even as far afield as the United Kingdom.
- (a), (b), (c), (d), (e). Already all of these adverse effects have been reported in people who have undergone intravenous glutathione. Anita was just one of many and many more can be expected throughout Africa. She recovered slowly and completely from her ordeal, and was reassured by her devoted husband that he did not care a jot about the change in her skin tones.

Reference: Unethical skin bleaching with glutathione. BMJ 2016; 354: 14386.

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