Comment

We believe that the previous report of a higher abortion rate after in vitro fertilisation might be related to the methods used for diagnosing early pregnancy. Our data suggest that the most effective way of diagnosing a viable pregnancy after assisted conception is by detecting a fetal heart at 4 to 6 weeks' gestation from follicular rupture. This method also minimises the psychological impact of pregnancy testing for the patient. Most spontaneous abortions, however, occur before this development, and biochemical indices of embryo viability are required to identify the problems and improve the efficacy of assisted conception. We conclude that the rate of spontaneous abortion

following in vitro fertilisation and embryo transfer is not significantly different from that observed after natural conception.

The analysis of covariance was undertaken by J P Royston, Department of Medical Physics, Royal Postgraduate Medical School, London.

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Gold treatment for kala-azar

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Gold has long been used to treat patients with rheumatoid arthritis, though it is not clear exactly how it works. After administration it is deposited in organs that are rich in mononuclear phagocytes.¹ The amastigote form of leishmania also selects macrophages. We therefore wondered if gold could be used to treat patients with kala-azar.

Patients, methods, and results

Because of its possible toxicity we gave gold only to patients who had relapsed after treatment or had failed to respond to treatment with sodium stibogluconate for kala-azar. We treated six women and four men, mean (SD) age 23.2 (10.8) years and mean (SD) weight 35.8 (10.2) kg (table). We obtained informed consent from all 10 patients after explaining the possible toxic effects of gold. We carried out thorough clinical examinations and routine investigations before treating them with sodium aurothiomalate 10 mg intramuscularly as the first dose followed by 20 mg intramuscularly on alternate days to a total dose of 250 mg. The patient in case 9, weighing 18 kg, was given 10 mg on alternate days to a total dose of 200 mg. A bone marrow aspirate obtained by puncture of the iliac crest and stained with Leishman's stain showed Leishman-Donovan bodies in all 10 patients. None of the patients had cardiac, pulmonary, renal, or hepatic complications.

Haematological investigations were repeated weekly and a final assessment made at the end of four weeks when the bone marrow was re-examined for the presence of leishmania. Liver enlargement was noted

in the midclavicular line, and the spleen was measured along its long axis from the costal margin in the anterior axillary line to its tip.

All 10 patients responded clinically; their fevers abated in six to 13 days and the size of the liver and spleen regressed. The white cell count and haemoglobin concentration, however, showed little change, while the total platelet count actually dropped. In three patients (cases 4, 5, and 7) Leishman-Donovan bodies were seen after four weeks, but two weeks later, with no further treatment, no parasites were seen in the bone marrow of the patient in case 4. In one patient (case 9) the bone marrow could not be re-examined at the end of four weeks, but at follow up three months later the patients in cases 5, 7, and 9 also became parasitologically negative, and the total platelet count returned to normal in all. All 10 patients remained well one year after discharge from hospital.

Comment

All 10 patients showed an excellent clinical response to treatment with sodium aurothiomalate, their temperatures all returning to normal and the size of the liver and spleen regressing. The fall in the total platelet count might be explained by an increased elimination of thrombocytes rather than overall depression of the bone marrow.

We suggest that gold treatment should be considered for patients who have so far been treated with amphotericin B or pentamidine, as both are toxic, and such patients may tolerate treatment with gold.

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Findings in 10 patients before and four weeks after starting treatment with gold

Case No:	1	2	3	4	5	6	7	8	9	10	Mean
Age (years)	13	40	14	18	35	35	12	22	13	30	23.2
Weight (kg)	35	35	28	41	35	38	27	48	18	53	35.8
Previous sodium stibogluconate treatment (g)	30	18	30	12	36	18	27	18	15	18	17
Enlarged liver (cm):											
Before treatment	10	10	6	4	5	5	8	8	4	7	6.7
After treatment	4	5	2	2	3	2	4	2	2	3	2.9*
Enlarged spleen (cm):											
Before treatment	19	11	18	16	19	9	17	15	12	15	15.1
After treatment	13	3	9	8	8	2	11	4	9	10	7.7*
Total leucocyte count ($\times 10^9/l$):											
Before treatment	5.2	2	4.7	4.8	3.6	5.1	1.85	3.7	6.4	2.9	4.03
After treatment	4.2	5.2	4.0	4.5	4.2	4.3	2.75	5.2	5.1	7.4	4.7
Total platelet count ($\times 10^9/l$):											
Before treatment	185	110	210	180	225	250	190	150	250	150	190
After treatment	168	80	175	170	180	180	145	70	180	110	145.8*
Haemoglobin (g/l):											
Before treatment	102	110	94	92	52	94	60	100	96	90	89
After treatment	105	112	100	100	55	100	68	110	124	122	99.6
No of days till fever abated	6	8	11	10	10	10	13	12	13	8	10.1
Amastigotes in bone marrow after treatment	None	None	None	Yes	Yes	None	Yes	None	Not done	None	

*Compared to pretreatment value $p < 0.001$ (t test for paired data).