We have previously reported sudden onset of profound deafness associated with antiphospholipid antibodies in a 12-year-old child with systemic lupus erythematosus (SLE).\(^1\) On admission there was a 3-month history of deafness, intermittent fever, oral ulcers, a photosensitive malar rash, and a discoid rash on her back and scalp leading to scaly areas of alopecia. Pure tone audiometry showed severe bilateral sensorineural deafness with no response up to 120 decibels. Antinuclear antibody was 1.8 (normal <1). Anticardiolipin antibody IgM was 8.9 MPL U/ml (normal 0–6.0) and IgG was 13.10 GPL U/ml (normal 0–12). She was started on oral prednisolone 2 mg/kg/day for 10 days, then 1 mg/kg/day for 2 weeks, then 1 mg/kg/ on alternate days for the next month. During the following month the total dose was reduced to 5 mg. The fever and rash responded promptly but the deafness did not improve. A report of the use of plasma exchange in an adult with SLE deafness\(^2\) prompted us to offer this modality of treatment to this child.

On re-admission 6 months after the onset of her symptoms, pure tone audiometry was repeated and showed that there was no improvement. There was still no response at 120 decibels. In the absence of a plasmapheresis machine, a 1-volume manual plasma exchange was done over 2 days, as follows: 10% of the child’s blood volume (200 ml) was withdrawn into a single bag containing citrate-phosphate-dextrose-adrenaline I (CPDA I) and centrifuged at 1200 \(\times\) g for 10 minutes in a Beckman J6-MC centrifuge at 4 °C and the supernatant plasma was discarded. Her packed cells were returned to her, infused with the help of a syringe pump. The reduced plasma volume was corrected with fresh frozen plasma which was infused separately after the packed cells.

One litre of her blood was withdrawn in five such cycles. The procedure was repeated after 4 days and by the end of the process it was calculated that her total blood volume had been exchanged. After the first five cycles she could hear sounds and responded to them but she could not discern speech. Following her plasma exchange, her audiogram showed that she could hear with her left ear. Her audiogram showed response to 105 dB at 500 Hz and at 95 dB at 2K. She was started on aspirin, one tablet daily. Repeat audiogram done a month later showed that the hearing in the right ear was very marginally better with some hearing at 110 dB. The left ear showed no deterioration. She was able to understand some words but her hearing was not sufficient for sustained conversation without the help of a hearing aid.

Although neurological features occur in 60% of patients with SLE, deafness is not an established characteristic of the disease.\(^2\) The mechanism of hearing loss in SLE might be thrombosis related to antiphospholipid antibody,\(^3\) which Carreras and Vermynle suggest might cause endothelial damage which results in decreased prostacyclin production and leads to platelet aggregation and thrombosis.\(^4\) The antiphospholipid antibodies were slightly but not dramatically
and improvement were seen. Improved function with the
unfavorable influence of plasma exchange. In the
similarly, renal improvement was also seen.
6 Kaporashin, R., Friedman, N., Friedman, K.,
Swerin, J. 7962;709-11.
Plasmapheresis in the management of acute glomerular
Phases of the disease are associated with better recovery.
3 Jones, Y. Currents R. H., Buckman, R. C., Aspin, C.
Disease is associated with plasma exchange.
5 Higher and association with thrombosis is significant.
Assay and improvement are seen. The role of plasmapheresis
and thrombosis — possible role of plasmapheresis in acute
plasmapheresis in the management of acute glomerular
Phases of the disease are associated with better recovery.
1 Averill, K.S., Pullen, I.M., Khamin, U., Sudden onset
References

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Kishore Agarwal,

Science without plasmapheresis machines.
any complications and could be used in
The manual technique used for plasma
exchange is done early in the
treatment phase and had an improvement of 10-20 %
neck exchange 6 months after the onset of deafness.
was plasma-exchanged 6 weeks after the
To plasmapheresis, patient who was deafness noted in Hamilton's patient who
plasmapheresis, hearing had improved.
In a patient with SLE, complete resolution of
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1 Averill, K.S., Pullen, I.M., Khamin, U., Sudden onset

Sudden Kaporashin et al. also reported the
Exchange every 3 to 6 months was noted.
exchange was successful in a patient with SLE.
exchange was successful in a patient with SLE.

Science without plasmapheresis machines.
any complications and could be used in