

finding,⁷ we suggest that there is a defect of LPS responsiveness of monocytes to the induction of TNF α and IL10.

This case confirms the excellent response of CINCA syndrome to treatment with human IL1 receptor antagonist. Our results suggest that patients with this hereditary autoinflammatory disorder may exhibit a profound dysregulation of IL1 and TNF α synthesis. However, we cannot exclude the possibility that the inability to detect TNF α before application of IL1 receptor antagonist owed more to a rapid decay of TNF α rather than reduced production. As this dysregulation is reversed by treatment with IL1 receptor antagonist, one may argue that therapeutic inhibition of otherwise aberrant IL1 β secretion results in a compensatory up regulation or less decay of TNF α to maintain the host's capacity to react to microbial agents and other types of danger signals. Furthermore, the overall up regulation of the TNF α pathway by interaction at the IL1 pathway illustrates that the cytokine imbalance is not due to a defect, but rather to a dysregulation. Finally, our results provide an explanation for the reason why TNF blocking agents are ineffective in certain autoinflammatory diseases.

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REFERENCES

- Hoffmann HM, Mueller JL, Broide DH, Wanderer AA, Kolodner RD. Mutations of a new gene encoding a putative pyrin-like protein causes familial cold autoinflammatory syndrome and Muckle-Wells syndrome. *Nat Genet* 2001;**29**:301-5.
- Neven B, Callebaut I, Pieur AM, Feldmann G, Bodemer C, Lepore L, et al. Molecular basis of the spectral expression of CIAS1 mutations associated with phagocytic cell-mediated autoinflammatory disorders CINCA/NOMID, MWS, and FCU. *Blood* 2004;**103**:2809-15.
- Aksentjevich I, Nowak M, Mallah M, Chae JJ, Wafford WT, Hofmann SR, et al. De novo CIAS1 mutations, cytokine activation, and evidence of genetic heterogeneity in patients with neonatal-onset multisystem inflammatory disease (NOMID): a new member of the expanding family of pyrin-associated autoinflammatory diseases. *Arthritis Rheum* 2002;**46**:3340-8.
- Granel B, Serratrice J, Disdier P, Weiller PJ. Dramatic improvement with anakinra in a case of chronic infantile neurological cutaneous and articular (CINCA) syndrome. *Rheumatology* 2005;**44**:689-90.
- Hawkins PN, Lachmann HJ, McDermott MF. Interleukin-1-receptor antagonist in the Muckle-Wells syndrome. *N Engl J Med* 2003;**348**:2583-4.
- Hawkins PN, Lachmann HJ, Aganna E, McDermott MF. Spectrum of clinical features in Muckle-Wells syndrome and response to anakinra. *Arthritis Rheum* 2004;**50**:607-12.
- Bihl T, Vassina E, Boettger MK, Goldbach-Mansky R, Seitz M, Villiger PM, et al. The T348M mutated form of cryopyrin is associated with defective LPS-induced IL-10 production in CINCA syndrome. *Ann Rheum Dis* 2005;**64**:1380-1.

Reversible posterior leucoencephalopathy in scleroderma

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A 34 year old Chinese woman with limited scleroderma presented with rapid onset of mental confusion and generalised tonic-clonic seizures. Her blood pressure control had been unsatisfactory in the preceding 4 weeks despite the use of three anti-hypertensive agents, which included an angiotensin converting enzyme inhibitor. Malignant hypertension (blood pressure 240/140 mm Hg on admission) was evident, with typical fundoscopic abnormalities,

microangiopathic haemolytic anaemia, and rapidly deteriorating renal function with acute oligouric renal failure (increase in serum creatinine from baseline of 86 to 495 μ mol/l in 3 days). There was, however, no evidence of left ventricular failure.

Treatment was given in the intensive care unit with infusions of labetalol (up to 150 mg/h) and iloprost (up to 10 μ g/h), large doses of captopril (150 mg/day), and haemodialysis. An urgent magnetic resonance imaging (MRI) scan

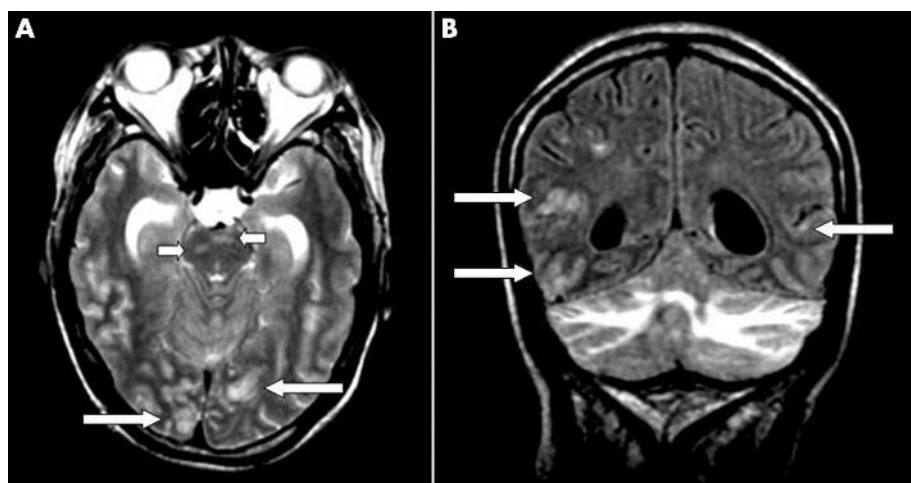


Figure 1 (A) Axial T₂ weighted and (B) coronal fluid attenuated inversion recovery (FLAIR) images showing bilateral abnormal hyperintensities in the white matter of the cerebellum, cortex, and subcortical white matter of the occipital lobes (long arrows), and in the brain stem (short arrows).

of the brain showed marked vasogenic oedema distributed symmetrically at the cortex, and subcortical white matter of the occipital lobes, the cerebellum, and the brain stem (fig 1). With control of hypertension and dialysis support, she gradually regained full consciousness without neurological deficits. A repeat MRI scan 2 weeks later demonstrated complete resolution of the lesions. The clinical picture was compatible with a reversible posterior leucoencephalopathy syndrome (RPLS).

RPLS is a clinical syndrome characterised by headache, seizures, visual disturbances, and confusion. The MRI finding is often characteristic, with abnormal T₂ weighted hyperintensity affecting primarily the white matter of the territories of the posterior circulation.¹ The cerebral cortex and the anterior circulation territories may also be affected, but usually to a lesser extent. RPLS has been described in an increasing number of medical conditions, including hypertensive encephalopathy, eclampsia, neurotoxicity related to calcineurin inhibitors, and uraemic encephalopathy. Reversible vasogenic oedema is the underlying pathology of the abnormal MRI signal intensities. The exact pathogenesis of RPLS remains elusive but a break down of the autoregulation of cerebral blood flow and endothelial dysfunction resulting in leakage of fluid into the interstitium has been postulated.

RPLS has been described in many rheumatic diseases, including systemic lupus erythematosus, systemic vasculitides, and the overlap syndromes.^{2,3} However, we believe that this is the first report of RPLS in adult patients with limited scleroderma. Prompt recognition and treatment of this condition is essential as it is potentially reversible.

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REFERENCES

- 1 Hinchey J, Chaves C, Appignani B, Breen J, Pao L, Wang A, *et al*. A reversible posterior leucoencephalopathy syndrome. *N Engl J Med* 1996;**334**:494–500.
- 2 Primavera A, Audenino D, Mavilio N, Cocito L. Reversible posterior leucoencephalopathy syndrome in systemic lupus and vasculitis. *Ann Rheum Dis* 2001;**60**:534–7.
- 3 Yong PF, Hamour SM, Burns A. Reversible posterior leucoencephalopathy in a patient with systemic sclerosis/systemic lupus erythematosus overlap syndrome. *Nephrol Dial Transplant* 2003;**18**:2660–2.

Experimental infection with *Plasmodium falciparum* does not result in the induction of anticardiolipin antibodies in healthy volunteers

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Antiphospholipid antibodies (aPL), particularly lupus anticoagulant or anticardiolipin antibodies (aCL), are diagnostic markers for the antiphospholipid syndrome, which is characterised by venous or arterial thrombosis or obstetric complications, or both.¹ aPL may also occur in association with a multitude of infectious agents. Asherson and Cervera, while reviewing infection related aPL, mentioned malaria as one of the parasitic infections that has been associated with the presence of aPL.² Indeed, two independent papers have described the high prevalence of aPL in patients with malaria. Jakobsen *et al* described the induction of IgM, but not IgG aPL during acute *Plasmodium falciparum* infection of Sudanese adults.³ The aPL were reactive with cardiolipin, phosphatidylinositol, and phosphatidylcholine. Facer and Agiostratidou examined adult patients of diverse ethnicity with uncomplicated non-severe malaria.⁴ They showed that *P falciparum* and *P vivax* infections are associated with the appearance of raised plasma levels of IgM and IgG aPL, and aCL were raised in over 75% of the patients with malaria. Patients with *P falciparum* had high aPL IgG levels, exceeding the levels seen in positive controls.⁴ Because the observed association may lack a causal relation, we recently evaluated the induction of aPL in 10 healthy white volunteers upon infection with *P falciparum*.

Anopheles stephensi mosquitoes were infected with the chloroquine sensitive NF54 isolate of *P falciparum* at the insectary, as previously described.⁵ Sets of female mosquitoes were allowed to feed on the forearms for 10 minutes. Subsequent dissection was performed to confirm the presence of sporozoites in the mosquito salivary glands. If not present, the feed was repeated until successful. Volunteers were carefully monitored by assessing blood films twice daily. Upon microscopic detection of parasites, volunteers were immediately treated with a standard curative regimen of chloroquine.

Blood was sampled one day before infection and 1, 7, 10, 12, and 20 days after infection. IgM and IgG aCL were analysed by commercial enzyme linked immunosorbent assay (ELISA; Pharmacia Diagnostics, Freiburg, Germany) in a serum dilution of 1:100. Results showed that all volunteers were negative for both IgM and IgG aCL before infection and remained negative for these antibodies during follow up. Thus, acute *P falciparum* infection does not result in the induction of aCL.

Nevertheless, although there seems to be no causal relation between malaria and aCL, the coexistence of aPL may further complicate malarial infection. For instance, thrombocytopenia is often (~60%) seen in patients with malaria, and