

The parietal cortex and attentional modulations of activities of the visual cortex

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We recorded high density event-related brain potentials (ERPs) from a patient with focal left parietal damage in a covert visual orienting task requiring detection of targets in the attended or unattended hemifield. A positivity peaking at 120 ms (P1) to the left visual field stimuli was enlarged when attended than unattended and was localized to the right extrastriate cortex. However, spatial attention did not influence the ERPs to the right visual field stimuli.

The leftward cue elicited an enlarged P1 relative to the rightward cue. The results suggest that human parietal cortex is critical for the attentional modulation of the neural activities in the extrastriate cortex associated with stimuli in the contralateral hemifield. *NeuroReport* 15:2275–2280 © 2004 Lippincott Williams & Wilkins.

Key words

MR image acquisition: B
 1.5T GE S MR
 3D T1- (256 ×
 66 × 256 0.938 × 2.0 × 0.938-
 , TR=585 , TE=).

(F(1,9)=7.88, <0.02)
 P1
 (F(1,9)=10.6, <0.01). C
 100 120

RESULTS

Patient: T 72% 76%
 L_F R_F R 521 547 L_F
 534 561 R_F F 2
 ERP T ERP 100
 140 (P1), 140 220 (N1). T
 350 550 (P3). T
 (F(1,9)=5.39, <0.04)
 (F(1,9)=9.95, <0.01)
 100 140 (P1)
 A
 (F(1,9)=5.66, <0.04),
 L_F R_F
 F L_F R_F
 (F(1,9)=15.4, <0.004), P1
 T

463 , R_F: 448)
 (L_F: 496 , R_F: 475 ; F(1,5)=16.3,
 <0.01). F 4 ERP ANO_A
 (F(1,5)=14.2, <0.02),
 P1 H
 × (F<1),
 P1 L_F R_F
 T N1 140
 160
 (F(1,5)=9.10, <0.03). C
 P1
 L_F R_F (E . 4). T T
 -27.2, -70.7,
 -1.2 (R_F); -26.9, -29.7, -9.9 (R_F); 23.0,
 -72.0, -2.3 (L_F); 15.4, -72.2, -0.3 (L_F).

F 5
 80 130 (P1)
 (N1). ANO_A
 ERP
 80 200
 (F<1).
DISCUSSION
 T
 ERP
 6F T

L_F M P1
R_F T P1
T ERP
T (P1) 12 14

N1 S P1
 N1
 25
 R_F

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CONCLUSION

T ERP
 T
 T

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