

Recurrent and Bilateral Facial Palsy in Bell's Palsy and Ramsay-Hunt Syndrome: Risk Factors and Clinical Outcomes

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BACKGROUND

- Bell's palsy and Ramsay Hunt account for most acute peripheral facial palsies
- Most patients have a single unilateral event; subset **recurrent** or **bilateral**
- Recurrence affects 6–12%, bilaterality 0.3–3%
- No consensus on definitions; risk factors poorly characterized
- Prior limitations: small cohorts, no multivariable adjustment, short follow-up

AIM

To identify demographic and clinical risk factors for recurrent and bilateral facial palsy and to compare facial palsy severity across recurrent, bilateral, and nonrecurrent unilateral cohorts.

METHODS

Design Single-center retrospective cohort study

Groups Patients were stratified into three cohorts:

- **Recurrent unilateral:** new ipsilateral event >30 days after the initial event
- **Bilateral:** involvement of both sides, ≤1 episode per side, simultaneous or sequential
- **Nonrecurrent unilateral:** single ipsilateral event (reference group)

Outcomes

Primary: risk factors for recurrence and bilaterality, each compared with nonrecurrent unilateral facial palsy.

Secondary: facial palsy severity by the Clinician-Graded Facial Function Scale (eFACE), graded by 3 independent raters (Cronbach's $\alpha > 0.90$).

Inclusion

Bell's palsy or Ramsay Hunt syndrome. Severity analysis required standardized photo/video ≥16 months after onset.

Exclusion

Differing recurrence etiologies, combined recurrent & bilateral involvement, prior facial reanimation surgery, or botulinum toxin within 3 months of photos

COHORT SNAPSHOT

Group	n (%)	Mean age, yr	Follow-up, yr
Nonrecurrent unilateral	378 (85.9)	43.8	7.9
Recurrent unilateral	30 (6.8)	28.0	23.5
Bilateral	32 (7.3)	40.5	15.2
Total	440	42.5	9.5

KEY FINDINGS

3.69× RECURRENCE ODDS AGE < 40 95% CI [1.26, 10.80]; p = 0.017	2.49× BILATERALITY ODDS AUTOIMMUNE DISEASE 95% CI [1.09, 5.65]; p = 0.030
~10 yr INTERVAL BETWEEN EVENTS Mean 11.7 yr (recurrent) and 10.1 yr (bilateral) between events	n.s. SEVERITY DIFFERENCE IN RECURRENT AND BILATERAL CASES eFACE did not differ by recurrence (p = 0.583), bilaterality (p = 0.205).
n.s. SEVERITY DIFFERENCE BY ETIOLOGY eFACE did not differ by Bell's Palsy versus Ramsay Hunt (p = 0.169)	n.s. DIFFERENCE IN RATES OF RECURRENCE OR BILATERALITY BY ETIOLOGY Rates did not differ by recurrence (p = 0.922), bilaterality (p = 0.403).

MULTIVARIABLE REGRESSION

Risk factors for recurrence (n = 408)

Variable	aOR	95% CI	p
Age <40 at onset	3.69	1.26 – 10.80	0.017
Diabetes	1.62	0.44 – 5.93	0.468
Smoking	1.52	0.62 – 3.76	0.362
Hypertension	1.37	0.53 – 3.52	0.518
Sex (F vs. M)	1.14	0.40 – 3.22	0.806
Autoimmune	1.12	0.42 – 3.02	0.817
Obesity	1.04	0.41 – 2.64	0.942
Time from FP onset to last clinic visit	1.01	1.00 – 1.01	< 0.001

Risk factors for bilaterality (n = 410)

Variable	aOR	95% CI	p
Autoimmune condition	2.49	1.09 – 5.65	0.030
Diabetes	2.16	0.80 – 5.82	0.127
Hypertension	2.03	0.82 – 5.04	0.126
Smoking	1.45	0.63 – 3.33	0.378
Age <40 at onset	1.40	0.54 – 3.60	0.486
Sex (F vs. M)	1.28	0.50 – 3.30	0.605
Obesity	0.84	0.35 – 2.06	0.711
Time from FP onset to last clinic visit	1.00	1.00 – 1.01	0.035

CONCLUSION

Age <40 at first event independently predicts **recurrence**
Autoimmune disease independently predicts **bilateral** involvement
Severity does not differ by recurrence, bilaterality, or etiology
Events recur ~1 decade apart