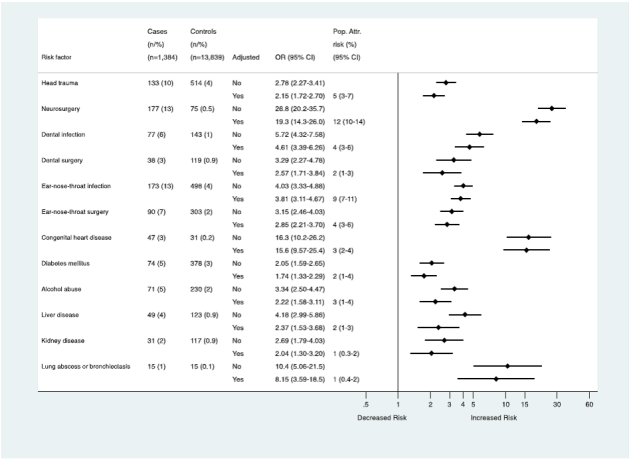
Figure 1: Risk factors and their population attributable fractions among patients hospitalized with brain abscess and age-, sex-, and resident-matched population control subjects.



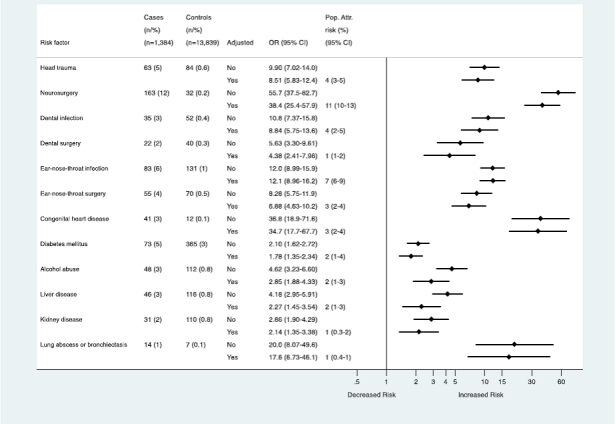
* Adjustments: Head trauma: alcohol abuse and nervous system disease. Neurosurgery: alcohol abuse, cancer, and head trauma. Dental infection and surgery: alcohol abuse, diabetes mellitus, cancer, connective tissue disease, and HIV. Ear-nose-throat infection and surgery: diabetes mellitus, dental infections, cancer, connective tissue disease, and HIV. Congenital heart disease: hematological (proxy for hypervicosity) and cerebrovascular disease. Diabetes mellitus: alcohol abuse, connective tissue disease, cancer, and liver disease. Alcohol abuse: diabetes mellitus, nervous system disease, dental infections, and cancer. Liver and kidney disease: alcohol abuse, diabetes mellitus, and cancer. Lung abscess or bronchiectasis: alcohol abuse, diabetes mellitus, ear-nose-throat infections, and cancer.

Table 2: Risk factors associated with immuno-compromise among patients hospitalized with brain abscess and age-, sex-, and resident-matched population control subjects.

	Total number (%)		OR (95% CI)		Attributable risk (%) (95% CI)
Exposure	**Cases (n=1,384)**	**Controls (n=13,839)**	**Crude**	**Adjusted**	
Primary immunodeficiency	3 (0.2)	2 (0.01)	15.0 (2.50-89.8)	-	
Solid cancer[a]	200 (14)	628 (5)	4.19 (3.43-5.12)	4.12 (3.37-5.04)	11 (9-13)
Hematological cancer[a]	41 (3)	51 (0.4)	8.56 (5.58-13.1)	8.77 (5.66-13.6)	3 (2-4)
Connective tissue disease[a]	44 (3)	214 (2)	2.11 (1.52-2.94)	2.05 (1.47-2.87)	2 (1-3)
HIV[b]	23 (2)	18 (0.1)	12.8 (6.89-23.7)	12.0 (6.13-23.7)	2 (1-2)
Solid organ transplant	8 (0.8)	9 (0.09)	9.00 (3.66-22.2)	-	
Bone marrow transplant	6 (0.6)	1 (0.01)	60.0 (7.22-499)	-	
Other stem cell treatments	4 (0.4)	1 (0.01)	40.0 (4.47-358)	-	
Immuno-modulating treatments[a]	77 (10)	153 (2)	5.72 (4.27-7.67)	5.71 (4.22-7.75)	5 (3-6)
Cytostatic agents[a]	65 (9)	112 (1)	6.67 (4.80-9.27)	6.65 (4.71-9.39)	4 (3-5)
Alkylating agents[a]	20 (3)	27 (0.4)	7.90 (4.35-14.3)	7.48 (3.90-14.4)	1 (1-2)
Antimetabolites[a]	12 (2)	52 (0.7)	2.37 (1.26-4.48)	2.22 (1.16-4.24)	1 (0-1)
Antimitotic drugs	8 (1)	13 (0.2)	6.15 (2.55-14.9)	-	
Topoisomerase inhibitors	4 (0.5)	8 (0.1)	5.00 (1.50-16.6)	-	
Other immuno-modulating therapy[a]	42 (6)	71 (0.9)	6.35 (4.28-9.41)	6.44 (4.31-9.62)	3 (2-3)
Intravenous immunoglobulin (IVIG)	12 (2)	4 (0.05)	30.0 (9.67-93.1)	-	
Anti-CD20 antibody	11 (1)	9 (0.1)	12.2 (5.06-29.5)	-	
TNF-alfa inhibitors[a]	11 (1)	25 (0.3)	4.47 (2.21-9.06)	4.33 (2.11-8.89)	1 (0.1-1)
Other antibody treatment	12 (2)	9 (0.1)	8.75 (3.17-24.1)	-	

[a]Adjusted for diabetes mellitus and alcohol abuse.
[b]Adjusted for dental and ear-nose-throat infections, diabetes mellitus, and cancer

Figure 2: Risk factors within five years and their population attributable fractions among patients hospitalized with brain abscess and age-, sex-, and resident-matched population control subjects.



* Adjustments: Head trauma: alcohol abuse and nervous system disease. Neurosurgery: alcohol abuse, cancer, and head trauma. Dental infection and surgery: alcohol abuse, diabetes mellitus, cancer, connective tissue disease, and HIV. Ear-nose-throat infection and surgery: diabetes mellitus, dental infections, cancer, connective tissue disease, and HIV. Congenital heart disease: hematological (proxy for hypervicosity) and cerebrovascular disease. Diabetes mellitus: alcohol abuse, connective tissue disease, cancer, and liver disease. Alcohol abuse: diabetes mellitus, nervous system disease, dental infections, and cancer. Liver and kidney disease: alcohol abuse, diabetes mellitus, and cancer. Lung abscess or bronchiectasis: alcohol abuse, diabetes mellitus, ear-nose-throat infections, and cancer.

Disclosures. **All authors:** No reported disclosures.

1397. Risk Factors of Unfavorable Clinical Outcomes in Patients with Brain Abscess and Subdural Empyema in Korea

Yunsuk Cho, MD[1]; Sangmin Ahn, MD[1]; Yujin Sohn, MD[1]; Yongseop Lee, MD [1]; Jonghoon Hyun, MD[1]; Woon Ji Lee, MD[1]; Jung Ho Kim, MD[1]; Jin young Ahn, MD[1]; Su Jin Jeong, MD, PhD[1]; Nam su Ku, MD, PhD[1]; Jun yong Choi, MD, PhD[1]; Joon-Sup Yeom, MD, PhD[2]; Hye Seong, MD[1]; [1]Yonsei University College of Medicine, Seoul, Seoul-t'ukpyolsi, Republic of Korea; [2]Department of Internal Medicine, Yonsei University College of Medicine, Seoul, Seoul-t'ukpyolsi, Republic of Korea

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Background. Brain abscess is a fatal neurological infection, despite reduction of mortality rate on account of medical improvement. Therefore, we investigated to identify risk factors for poor clinical outcomes of patients with brain abscess and subdural empyema in Korea.

Methods. A retrospective analysis was conducted among patients treated for brain abscess or subdural empyema over a period of 11 years between May 2005 and July 2016 in a tertiary hospital, Seoul, South Korea. Based on medical records, we reviewed the clinical findings, therapeutic modalities and prognostic factors of brain abscess or subdural empyema. A multivariate analysis was performed to evaluate the independent risk factors of poor clinical outcomes. Unfavorable clinical outcomes were defined as death or neurologic deficit.

Results. In total, 121 patients were enrolled in this study. 79 (65.2%) were males and the mean age was 55.3 years. The common symptoms at presentation included a focal neurological deficit (52.8%), a reduced Glasgow coma scale (47%), headache (49.5%) and fever (22.3%). Gram-positive cocci were most frequently isolated as the causative microorganism. The most common location of brain abscess was the frontal lobe (32.5%), followed by parietal (18.7%) and temporal lobe (11.38%) and a subdural empyema (8.26%). 28-day mortality was 2.47% (3/121), and 43.8% (53/121) had long-term disability. In multivariate analysis, reduced GCS, headache at presentation and high blood urea nitrogen were independently associated with unfavorable clinical outcomes.

Conclusion. In this study, reduced GCS, headache at presentation and high blood urea nitrogen were significant risk factors for unfavorable clinical outcomes in patients with brain abscess and subdural empyema.

Table.
Binary logistic regression of factors predicting an unfavorable outcome from brain abscess and subdural empyema

Variable	OR	95% confidence interval	P value
GCS<15	0.713	0.559-0.909	0.06
BUN	1.062	1.004-1.122	0.036
Headache	0.46	0.196-1.082	0.05

Disclosures. **All authors:** No reported disclosures.

1398. Clinical Performance of Film Array Meningitis/Encephalitis Multiplex PCR Panel in CNS Infection

Rajalakshmi Ananthanarayanan, DNB Internal Medicine, Fellowship in ID; Aswathy Sasidharan, BSc; Sarath Chandran, MBBS; Kerala Institute of Medical Sciences, Trivandrum, Kerala, India

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Background. Rapid identification of pathogen is important in the management of meningoencephalitis. A fully-automated multiplex PCR, the FilmArray (FA) meningitis/encephalitis (ME) panel, detects 14 pathogens simultaneously in an hour. As there is not much data on this, we undertook this study to understand its performance.

Methods. A retrospective analysis was done on patients, both adult and pediatric, admitted with meningitis/encephalitis syndrome between December 2016 and 2018 and who underwent the FA–ME panel (BioFire Diagnostics, USA) multiplex PCR test on CSF. The performance of the FA- ME panel was compared with that of routine tests done on CSF which is cell count, biochemistry, gram stain, bacterial culture, and other relevant tests.

Results. FA- ME panel was done in 259 patients and it detected pathogen in 61 (23.6%) patients with ME syndrome. Viruses accounted for 70.4%, bacteria 24.5%, and 2 patients had 2 organisms in a single sample (enterovirus and *H. influenzae* on both occasions). Enterovirus was the commonest accounting for 29 cases, followed by varicella in 11, pneumococci in 9. HHV 6, *H. influenzae*, *Strep agalactiae* and *Listeria* were the rest. Enterovirus meningitis showed seasonal prevalence; 24 out of 29 cases occurred during October till December. CSF bacterial culture yield was low, positive only in 8 (3%) cases and matched with FA ME panel in one sample which grew pneumococci; 7 other cultures grew either Gram-negative pathogens, rare organisms/ contaminants not included in FA ME panel. CNS tuberculosis was diagnosed in 6, 7 patients had aseptic meningitis due to tropical infections, 5 of which were dengue fever, 2 were scrub typhus. Overall, 191 patients (73.7%) were treated as CNS infection through FA ME panel were negative in 130 of these, rest had alternative diagnosis. Antibiotic de-escalation was better in the group with positive FA ME panel result.

Conclusion. FA-ME panel has better diagnostic yield compared with culture (26.3% vs. 3%). Viruses were commoner and majority were enteroviruses showing seasonal prevalence. Those bacteria that grew in CSF culture but not identified by FA ME panel were Gram-negative or unusual pathogens. Additional tests need to be used when considering post-traumatic or nosocomial meningitis, tuberculosis, and tropical infections.