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Clinical characteristics, diagnostic pathways, and outcomes of 13 patients with Vibrio vulnificus infection: a retrospective case series and proposed diagnostic workflow

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Abstract

Background

Vibrio vulnificus can cause rapidly progressive soft-tissue infection, sepsis, limb loss, and death. Because early manifestations may be nonspecific and conventional culture can be slow or negative after antimicrobial exposure, timely recognition and pathogen identification remain challenging. We characterized the clinical presentation, diagnostic pathways, management, and outcomes of 13 patients and developed a pragmatic diagnostic workflow based on the patterns observed in this series.

Methods

We retrospectively reviewed 13 patients with microbiologically confirmed V. vulnificus infection admitted to Shanghai Sixth People's Hospital between January and September 2026. Demographic characteristics, comorbidities, exposure history, clinical manifestations, admission laboratory findings, microbiological investigations, antimicrobial therapy, surgical management, and in-hospital outcomes were extracted from medical records. Owing to the small sample size and descriptive case-series design, no inferential statistical comparisons were performed.

Results

The 13 patients (7 men and 6 women) had a mean age of 66.4 years (SD 9.7; range 51–82 years), and 12 had at least one underlying condition. Symptom onset to hospital admission ranged from 12 to 72 h. The interval from injury to definitive diagnosis ranged from 67 to 131 h (median 92 h). V. vulnificus was detected by metagenomic next-generation sequencing (mNGS) in 9 patients and by wound secretion culture in 4. The reported turnaround time was 1 day (IQR 1–2) for mNGS and 5 days (IQR 5–5) for positive wound cultures. All patients received antimicrobial therapy; 12 underwent debridement, 11 underwent their first operation within 24 h of admission, 5 underwent amputation, and 4 required intensive care. All 13 patients survived to hospital discharge.

Conclusions

This small, single-centre case series highlights the rapid progression and substantial surgical burden of severe V. vulnificus infection. A combination of early clinical suspicion, immediate microbiological sampling, prompt empirical antimicrobial therapy, and urgent surgical assessment is central to management. mNGS may provide useful adjunctive pathogen identification where available, particularly when conventional cultures are unrevealing, but it should complement rather than replace culture and clinical judgement. The proposed workflow is hypothesis-generating and requires prospective, multicentre validation before routine clinical use.

Background

Vibrio vulnificus is a halophilic, Gram-negative bacterium that inhabits warm coastal and estuarine waters and can contaminate seafood, particularly shellfish. [1] Human infection most commonly follows exposure of a wound to seawater or raw seafood, or ingestion of contaminated seafood.. [2] Severe disease occurs disproportionately in older adults and in patients with chronic liver disease, diabetes, malignancy, or other immunocompromising conditions.. [3, 4] In susceptible hosts, infection may progress within hours from localized pain and swelling to hemorrhagic bullae, necrotizing soft-tissue infection, septic shock, and multiorgan dysfunction. [5]

Early recognition is difficult because the initial manifestations may resemble cellulitis or other soft-tissue infections, and a relevant marine or seafood exposure may not be volunteered unless specifically elicited. Rapidly progressive pain, edema, ecchymosis, hemorrhagic bullae, skin discoloration, or necrosis should therefore prompt urgent evaluation for a necrotizing infection .. [6, 7] Conventional culture remains essential for organism identification and antimicrobial susceptibility testing, but diagnostic yield may be reduced after antibiotic exposure and final results can take several days. Molecular methods, including mNGS, can provide earlier organism-level information in selected patients, although they do not replace culture, susceptibility testing, or bedside assessment. [8, 9]

Management of severe V. vulnificus infection is time-critical and requires simultaneous resuscitation, empirical antimicrobial therapy, microbiological sampling, and surgical evaluation. [10, 11] When necrotizing infection is suspected, source control should not be delayed while culture or molecular results are pending. [12, 13] Antimicrobial therapy should subsequently be refined according to susceptibility results, organ function, clinical response, and current local or national guidance. Because limb-threatening tissue injury may evolve rapidly despite treatment, repeated surgical reassessment is often necessary. [14]

Clinical descriptions of V. vulnificus infection from mainland China remain relatively limited, particularly reports that integrate diagnostic timelines, mNGS findings, surgical management, and short-term outcomes. [15] We therefore reviewed 13 microbiologically confirmed cases treated at a tertiary hospital in Shanghai to characterize presentation, diagnostic pathways, management, and outcomes. On the basis of recurring features in these cases, we also propose a pragmatic workflow intended to support early recognition and parallel microbiological testing. This workflow is descriptive and hypothesis-generating rather than a validated diagnostic rule.

Methods

This retrospective case series was conducted in accordance with the Declaration of Helsinki and was approved by the Ethics Committee of Shanghai Jiao Tong University Affiliated Sixth People's Hospital (approval No. 2025-KY-407(K)).

Eligibility criteria

Patients were eligible if V. vulnificus was identified by culture of blood, wound tissue, or wound secretion, or by mNGS, and the microbiological result was judged clinically compatible with the presenting infection. Patients with insufficient clinical records to characterize presentation, treatment, or in-hospital outcome were excluded. No age or sex restrictions were applied.

Study setting and participants

We included 13 consecutive eligible patients admitted to the Department of Emergency Orthopedics or the Department of Infectious Diseases at Shanghai Jiao Tong University Affiliated Sixth People's Hospital between January and September 2026.

This retrospective case series was prepared with reference to the STROBE reporting guideline for observational studies where applicable.

Data collection

Data extracted from the medical records included age, sex, underlying conditions, exposure history, injury and symptom-onset times when documented, admission time, clinical manifestations, anatomical site, admission laboratory findings, culture and mNGS results, antimicrobial susceptibility results, antimicrobial regimens, surgical procedures, intensive care unit (ICU) admission, length of hospital stay, amputation, and survival to discharge. The interval from injury to definitive diagnosis was calculated from the recorded injury time to the time at which V. vulnificus infection was microbiologically established and documented in the medical record.

Clinical outcomes and follow-up

We summarized symptom-onset-to-admission time, diagnostic test results and turnaround times, treatment, and in-hospital outcomes. Because the cohort was small, no inferential comparisons between subgroups were performed. Standardized long-term functional assessments were not available for all patients; functional outcomes are therefore described only for the illustrative cases for which follow-up information was documented.

Development of the proposed diagnostic workflow

The proposed diagnostic workflow was derived from recurring clinical presentations and diagnostic pathways observed in this cohort and from established principles of managing severe necrotizing soft-tissue infection. It is intended as a practical escalation framework rather than a diagnostic score. The workflow was not prospectively tested and has not undergone internal or external validation.

Statistical analysis

Continuous variables are summarized as mean (standard deviation [SD]) when approximately symmetric and as median (interquartile range [IQR]) when a robust summary was more appropriate; categorical variables are presented as counts and percentages. Given the small sample size and descriptive case-series design, no hypothesis testing, regression modelling, or causal inference was performed.

Descriptive statistical analyses were performed using GraphPad software (GraphPad Software, Boston, MA, USA).

Results

Baseline characteristics

Among the 13 patients, 7 (53.8%) were men and 6 (46.2%) were women. The mean age was 66.4 years (SD 9.7; range 51–82 years). Twelve patients (92.3%) had at least one underlying condition, including hypertension, hyperuricemia or gout, type 2 diabetes, chronic liver disease, chronic respiratory disease, and previous cerebrovascular disease. All patients had a documented history of coastal residence and/or seafood exposure. Symptom onset to hospital admission ranged from 12 to 72 h. The interval from injury to definitive diagnosis ranged from 67 to 131 h, with a median of 92 h. Upper-extremity involvement predominated, although lower-extremity and chest-wall lesions also occurred. The mean hospital stay was 24.2 days (Table 1).

Table 1
The baseline char acteristics of the 13 p atients with VVNF

case	sex	Age(years)	Underlying diseases	Time from symptom onset to hospital visit (h)	Reason for consultation	Length of hospital stay (d)	Time from injury to definitive diagnosis (h)
1	Femal	57	Hyperuricemia	24	Redness, swelling, heat and pain of the right hand and index finger	25	96
2	Male	58	Liver cirrhosis, thrombocytopenia	48	Swelling and pain of the left wrist and right knee	26	121
3	Femal	82	Hypertension, type 2 diabetes mellitus	24	Dark discoloration, swelling and ulceration of the skin of the right lower limb	8	84
4	Male	55	--	24	Skin rash on the left chest wall; ecchymosis, swelling and ulceration of the left upper arm skin	1	78
5	Femal	74	Hypertension, asthma, ischemic stroke	72	Dark purple discoloration, ulceration, pain and numbness of the left middle finger	31	103
6	Male	78	Hypertension, chronic hepatitis C, osteoporosis	12	Redness and pain of the right upper limb	43	92
7	Femal	67	Chronic obstructive pulmonary disease, gouty arthritis, alcoholic liver disease, lacunar cerebral infarction	16	Extensive redness and pain of the right hand	46	67
8	Male	76	Chronic bronchitis	18	Redness, pain and numbness of the right upper limb	12	92
9	Femal	51	Hyperuricemia	24	Redness, pain and numbness of the left hand	17	74
10	Male	61	Type 2 diabetes mellitus, hypertension, hyperuricemia	12	Redness and pain of the right upper limb	28	131
11	Male	69	Type 2 diabetes mellitus, pulmonary tuberculosis	24	Redness, heat and pain of the left foot	22	69
12	Male	63	Hypertension, type 2 diabetes mellitus	18	Redness, swelling and pain of the right upper limb	21	86
13	Femal	72	Chronic hepatitis B, chronic kidney disease	30	Redness, swelling and pain and numbness of the left foot	34	94

Note: "-" indicates no available data.

Laboratory findings

Admission laboratory findings reflected marked systemic inflammation and tissue injury in many patients (Table 2). Anemia and thrombocytopenia were frequent, and CRP and IL-6 were elevated in most patients with available measurements. Creatine kinase was ≥ 1,000 U/L in 6 patients, consistent with substantial muscle or soft-tissue injury. Ten patients had a LRINEC score ≥ 6 and 8 had a score ≥ 8. These findings should be interpreted as supportive rather than diagnostic: neither inflammatory markers nor the LRINEC score should be used in isolation to confirm or exclude necrotizing infection.

Table 2
The results of clinical laboratory tests for the 13 patients with VVNF

Case	WBC ($\times 10^9$/L)	Hb (g/L)	PLT (10^9/L)	CRP (mg/L)	PCT (ng/ml)	IL-6 (pg/ml)	PT (s)	APTT (s)	DD (μg/ml)	FIG (g/L)	SCR (μmol/L)	ALT (U/L)	TIBL (μmol/L)	CK (U/L)
1	30.31	124.00	189.00	164.56	14.31	1987.56	15.80	40.40	0.65	5.17	87.00	14.00	12.77	577.0
2	53.33	31.00	4.00	91.60	29.71	50000.00	22.20	60.20	2.31	1.57	181.00	522.00	335.09	3806
3	22.95	104.00	42.00	201.40	69.23	50000.00	23.50	114.00	5.53	8.57	168.00	61.00	21.00	516.0
4	11.78	59.00	13.00	245.10	100.00	50000.00	27.70	85.60	1.30	4.90	193.00	135.00	16.80	3507
5	17.57	102.00	55.80	4.74	35.68	4123.90	15.60	43.60	0.81	5.18	95.00	14.00	14.80	96.00
6	13.48	126.00	65.00	54.75	84.71	35116.97	17.50	61.60	0.89	8.93	143.00	79.00	33.66	1151
7	16.13	69.00	4.00	55.14	71.29	50000.00	23.20	155.10	4.23	1.14	149.00	91.00	62.13	2273
8	18.99	94.00	10.00	177.34	100.00	3606.75	21.60	83.50	20.00	6.74	120.00	26.00	25.73	567.0
9	15.96	127.00	273.00	11.18	0.30	-	13.70	38.50	0.22	2.88	82.00	25.00	16.15	177.0
10	30.59	61.00	48.00	307.00	32.39	50000.00	21.40	40.50	0.85	3.67	101.00	1387.00	18.67	679.0
11	15.89	110.00	110.00	243.00	9.43	8545.23	18.90	53.40	1.30	3.69	109.00	46.00	27.45	61.00
12	23.64	92.00	61.00	189.45	51.26	50000.00	20.50	71.30	2.18	6.02	136.00	57.00	21.36	2412
13	21.08	84.00	37.00	268.60	76.42	50000.00	24.10	96.40	3.16	7.15	174.00	98.00	41.05	3187

Note: "-" indicates no available data.

Treatment and outcomes

All 13 patients received antimicrobial therapy. Nine received cefoperazone–sulbactam plus levofloxacin, 2 received levofloxacin alone, and 2 received imipenem–cilastatin, levofloxacin, and vancomycin. Twelve patients underwent incision and debridement, with 1–4 operations per patient; 1 patient was managed without surgery. Among the 12 surgically treated patients, the interval from admission to the first operation ranged from 1 to 34 h, and 11 underwent surgery within 24 h. Five patients underwent amputation (2 upper-arm amputations, 1 little-finger amputation, 1 thumb amputation, and 1 great-toe amputation), and 4 required ICU admission. No patient received CRRT, plasma exchange, or hemoperfusion. All 13 patients survived to hospital discharge (Table 3).

Table 3
The treatment methods and outcomes of the 13 patient s with VVNF

case	Surgery performed	Time from admission to surgery (h)	Amputation	Surgical procedure	Number of operations	Death	CRRT/PE/HP	ICU admission	Antibiotic type	Etiological results
1	yes	3	yes	Right hand incision and debridement plus right little finger amputation	3	no	no	no	2	NGS detected Vibrio vulnificus
2	yes	1	yes	Left hand and forearm incision and debridement plus left upper arm amputation	4	no	no	yes	2	NGS detected Vibrio vulnificus
3	yes	24	no	Right upper limb incision and debridement, right hand incision and extensive debridement	1	no	no	no	1	NGS detected Vibrio vulnificus
4	yes	4	yes	Left upper limb incision and debridement plus upper arm skin grafting	1	no	no	yes	2	NGS detected Vibrio vulnificus
5	yes	5	yes	Left hand incision and debridement plus thumb amputation	3	no	no	no	2	NGS detected Vibrio vulnificus
6	yes	3	no	Right upper limb incision, decompression and debridement	3	no	no	no	2	NGS detected Vibrio vulnificus
7	no	-	no	-	0	no	no	yes	1	NGS detected Vibrio vulnificus
8	yes	2	no	Right upper limb incision and debridement	1	no	no	no	2	V. vulnificus isolated from wound secretion culture
9	yes	2	no	Left hand incision and debridement	2	no	no	no	2	V. vulnificus isolated from wound secretion culture
10	yes	3	no	Right upper limb incision and debridement	2	no	no	no	2	NGS detected Vibrio vulnificus
11	yes	34	no	Left limb incision and extensive debridement	1	no	no	no	3	NGS detected Vibrio vulnificus
12	yes	6	no	Right upper limb incision and debridement	2	no	no	yes	2	V. vulnificus isolated from wound secretion culture
13	yes	5	yes	Left lower limb incision and debridement plus left great toe amputation	3	no	no	no	3	V. vulnificus isolated from wound secretion culture

Note: "-" indicates no available data.

The clinical photographs illustrate the spectrum of local tissue injury and postoperative recovery. Figure 1 illustrates a representative case of Vibrio vulnificus hand infection treated with surgical debridement, followed by wound suturing and drainage. At follow-up, the wound had healed satisfactorily, with residual scarring and restoration of normal hand function as documented in the clinical follow-up records. Figure 2 illustrates a representative case of severe Vibrio vulnificus hand infection characterized by marked swelling, blistering, skin discoloration, and extensive soft-tissue necrosis. The patient initially underwent surgical debridement, followed by thumb amputation due to severe tissue destruction, and subsequently received skin grafting for wound reconstruction. Although the wound was successfully reconstructed, the loss of the thumb resulted in irreversible anatomical impairment and incomplete recovery of hand function. The accompanying radiograph shows preserved bony structures in the imaged region, while histopathological examination demonstrates dense inflammatory-cell infiltration.. Together, the figures emphasize that severe local tissue destruction can occur even when bone involvement is not evident on plain radiography.

Microbiological findings and antimicrobial susceptibility

V. vulnificus was identified by mNGS in 9 patients and by wound secretion culture in 4. Thirteen wound tissue or secretion cultures were obtained, of which 4 were positive; the reported turnaround time for the positive cultures was 5 days (IQR 5–5). Nine blood cultures were performed and none yielded V. vulnificus. All 9 patients tested by mNGS had V. vulnificus detected, with a reported turnaround time of 1 day (IQR 1–2) and a mean relative abundance of 36.5%. Susceptibility results were available for 3 isolates, all of which were reported susceptible to cotrimoxazole, ciprofloxacin, levofloxacin, amikacin, gentamicin, imipenem, cefepime, ceftazidime, cefoperazone–sulbactam, and piperacillin–tazobactam. Because susceptibility testing was available for only 3 isolates, these results should not be interpreted as representative of local resistance patterns.

Proposed diagnostic workflow for V. vulnificus infection

Based on the recurring features in this series, we propose an escalation-oriented diagnostic workflow rather than a numerical score. V. vulnificus infection should be considered when a patient presents with rapidly progressive limb pain or swelling, ecchymosis, hemorrhagic bullae, skin discoloration, or necrosis, particularly in the setting of recent seawater/seafood exposure or high-risk comorbidity such as chronic liver disease or immunocompromise. Hemodynamic instability, rapidly extending lesions, severe pain, thrombocytopenia/coagulopathy, or marked CK elevation should increase concern for invasive or necrotizing disease and trigger immediate multidisciplinary assessment.

When severe V. vulnificus infection is suspected, blood cultures and wound, blister-fluid, or tissue cultures should be obtained as early as possible, preferably before antibiotics when this does not delay treatment. Tissue should also be submitted for histopathology when surgery is performed. Where available and clinically appropriate, mNGS or a validated targeted molecular assay may be obtained in parallel, especially when prior antibiotics or negative cultures reduce conventional diagnostic yield. Empirical antimicrobial therapy and urgent surgical assessment should proceed without waiting for microbiological confirmation. Treatment should then be adjusted according to susceptibility results, clinical response, organ function, and current guidance.

Discussion

This retrospective case series describes 13 patients with microbiologically confirmed V. vulnificus infection treated at a tertiary hospital in Shanghai. Three findings are clinically notable: disease progression was rapid, with diagnosis occurring a median of approximately 4 days after the recorded injury; surgical intervention was required in 12 of 13 patients and amputation in 5; and mNGS provided organism identification with a shorter reported turnaround time than positive wound culture in the patients who underwent testing. These observations reinforce the need to integrate clinical recognition, microbiological sampling, antimicrobial treatment, and surgical source control rather than relying on any single diagnostic test.

Underlying conditions were common in this cohort. Chronic liver disease is a well-established risk factor for severe V. vulnificus infection, plausibly related to altered innate immune function and iron homeostasis [16] Diabetes and other chronic diseases have also been associated with severe infection in observational literature [3, 4, 16]. Our small series cannot determine whether any individual comorbidity independently predicted tissue loss, ICU admission, or other outcomes. Clinically, however, the presence of a high-risk host condition should lower the threshold for urgent evaluation when compatible skin and soft-tissue findings are present.

The laboratory profile was characterized by inflammation, cytopenias/coagulation abnormalities, and tissue-injury markers in several patients. These abnormalities are biologically compatible with severe invasive infection but are not specific for V. vulnificus. Experimental work has described mechanisms by which V. vulnificus toxins may contribute to hemolysis and procoagulant changes, while elevated CK has been reported as a marker of deeper tissue injury in necrotizing fasciitis. In practice, laboratory findings should support—rather than replace—serial physical examination and surgical judgement. The LRINEC score may contribute to risk assessment, but a low score should not provide false reassurance when the clinical trajectory is concerning. [17]

The diagnostic pattern in our cohort is also informative. All 9 patients who underwent mNGS had V. vulnificus detected, whereas only 4 of 13 wound cultures and none of 9 blood cultures identified the organism. The shorter reported turnaround time of mNGS (median 1 day) compared with positive wound culture (5 days) suggests a potential role for molecular testing as an adjunct in rapidly progressive infection. [18] However, this comparison is descriptive and subject to substantial selection bias: mNGS was not performed in every patient, there was no uniform paired-testing protocol, and the study cannot estimate sensitivity, specificity, predictive value, or incremental clinical benefit. Culture remains indispensable because it enables phenotypic susceptibility testing and epidemiological surveillance. [19, 20]

Management in this series was characterized by early combined medical and surgical treatment. Twelve patients underwent debridement, 11 underwent their first operation within 24 h of admission, and 5 required amputation. All patients survived to discharge, but the absence of deaths in a cohort of 13 should not be interpreted as evidence that a particular antimicrobial regimen or operative timing is superior. Previous studies have reported substantial mortality in V.

vulnificus sepsis and necrotizing soft-tissue infection. The two illustrative cases highlight the contrasting functional outcomes of severe V. vulnificus infection. The patient shown in Fig. 1 achieved satisfactory wound healing and reportedly regained normal hand function following surgical debridement. In contrast, the patient shown in Fig. 2 underwent sequential surgical debridement, thumb amputation, and subsequent skin grafting. Despite successful wound reconstruction, thumb loss resulted in permanent anatomical impairment and incomplete recovery of hand function. These findings emphasize that survival and wound healing do not necessarily indicate complete functional recovery.

Prevention remains important, particularly for people with chronic liver disease or other conditions associated with severe infection. Risk reduction includes avoiding raw or undercooked seafood, using protective gloves during seafood handling, protecting open wounds from seawater or raw seafood fluids, and seeking urgent medical care for rapidly progressive pain, swelling, blistering, or skin discoloration after a plausible exposure. This study has several limitations. It was a small, single-centre retrospective series and is therefore vulnerable to selection bias, missing data, and inconsistent documentation of exposure and timing. Diagnostic testing was not standardized: only a subset underwent mNGS, culture sampling sites varied, and only 3 isolates had susceptibility results. The definition and timing of definitive diagnosis depended on retrospective documentation. Long-term functional outcomes were not systematically measured. Finally, the proposed workflow was derived from the same small cohort and has not been validated. Larger multicentre prospective studies using standardized sampling, diagnostic timelines, and functional follow-up are needed to determine the clinical utility and cost-effectiveness of rapid molecular testing and to validate practical escalation algorithms.

Conclusions

In this retrospective series of 13 patients, V. vulnificus infection was characterized by rapid progression, frequent need for urgent debridement, and a substantial risk of limb loss despite survival to discharge. The contrasting outcomes of the two illustrative cases further highlight that survival and wound healing do not necessarily translate into complete functional recovery.Early recognition of compatible skin and soft-tissue findings, immediate microbiological sampling, prompt empirical antimicrobial therapy, and urgent surgical assessment should occur in parallel. mNGS may be a useful adjunct when available, but its diagnostic performance and effect on clinical outcomes cannot be established from this series. The proposed workflow should therefore be viewed as a practical hypothesis for future prospective validation rather than a validated diagnostic tool.

Abbreviations

ALT
alanine aminotransferase
AST
aspartate aminotransferase
CK
creatine kinase
CRP
C-reactive protein
ICU
intensive care unit
IL-6
interleukin-6
LRINEC
Laboratory Risk Indicator for Necrotizing Fasciitis
mNGS
metagenomic next-generation sequencing
NGS
next-generation sequencing
PCT
procalcitonin
PLT
platelet count
Scr
serum creatinine
VVNF
Vibrio vulnificus necrotizing fasciitis
WBC
white blood cell count.

Declarations

Ethics approval and consent to participate

This retrospective case-series study was performed in accordance with the principles of the Declaration of Helsinki and approved by the Ethics Committee of Shanghai Jiao Tong University Affiliated Sixth People's Hospital (approval No. 2025-KY-407(K)). Given the retrospective design using de-identified medical

record data, the requirement for individual written informed consent to participate was formally waived by the above-mentioned ethics committee.

Consent for publication

Written informed consent for publication of clinical photographs and related clinical information was obtained from all included patients. The signed consent documents are stored within the hospital and available for inspection upon reasonable request from the journal editorial office.

Competing interests

The authors declare that they have no competing interests.

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Author Contribution

Q.T. and X.C. conceived the study. D.X. contributed to the study design and methodology. H.L., W.H., and M.X. performed the statistical analysis. Q.T., H.L., W.H., M.X., P.H., S.L., and C.W. collected and curated the clinical data. P.H., S.L., and C.W. provided surgical data and contributed to the clinical evaluation of the cases. Q.T. drafted the manuscript. X.C., D.X., P.H., S.L., and C.W. critically reviewed and revised the manuscript. All authors read and approved the final manuscript.

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Not applicable.

Data Availability

The clinical data that support the findings of this study are available from the corresponding author upon reasonable request. Restrictions apply to the availability of these data to protect patient confidentiality and privacy.

The datasets analysed during the current study are available from the corresponding authors on reasonable request, subject to institutional and ethical restrictions.

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Figures

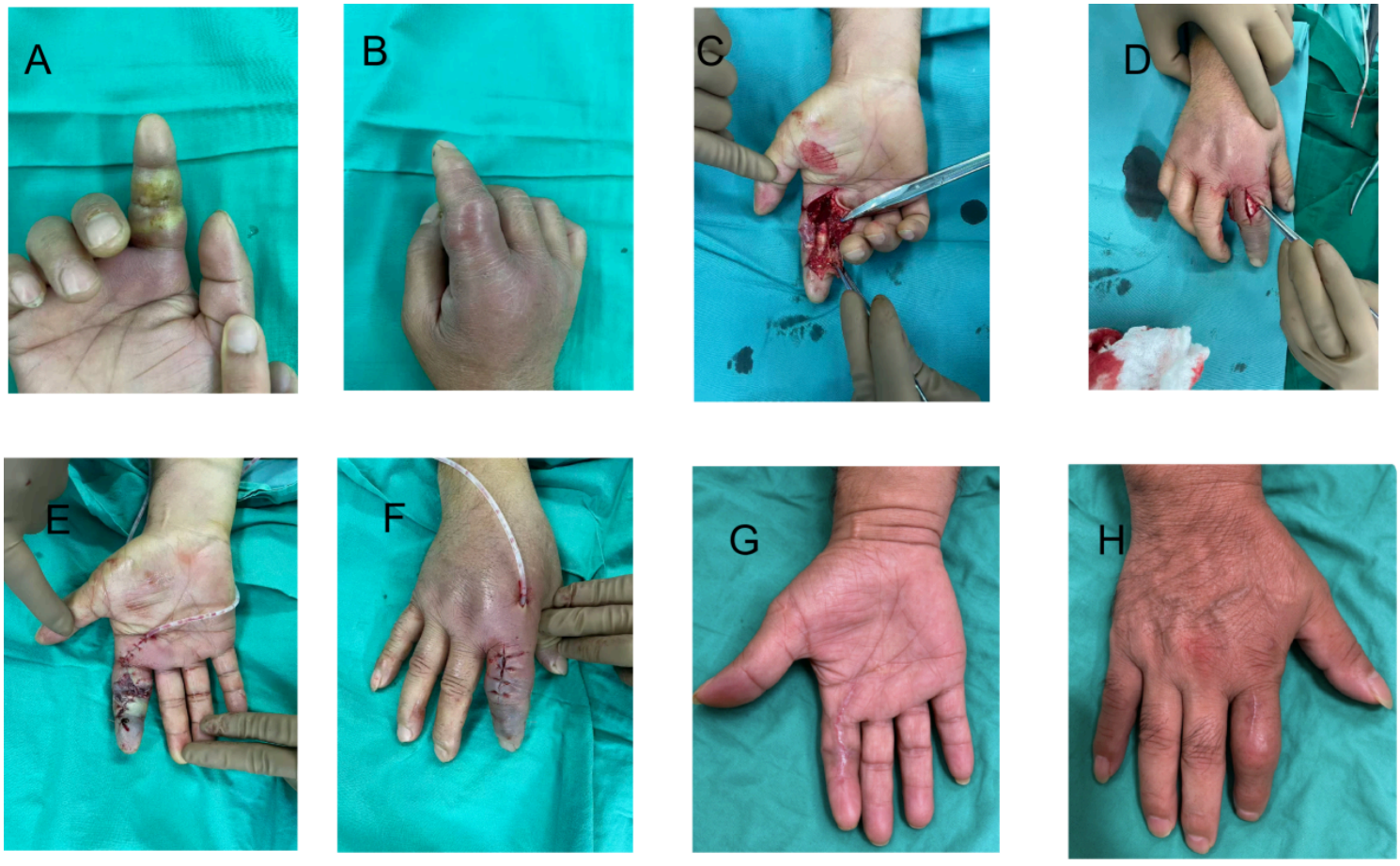


Figure 1

Clinical presentation, surgical treatment, and follow-up of a patient with Vibrio vulnificus hand infection. (A, B) Preoperative appearance showing swelling and discoloration of the affected index finger. (C, D) Intraoperative findings during surgical incision and debridement. (E, F) Postoperative wound appearance after debridement, suturing, and drainage. (G, H) Follow-up photographs showing satisfactory wound healing with residual scarring. Normal hand function was reported at follow-up.



Figure 2

Clinical presentation, sequential surgical management, and pathological findings in a patient with severe Vibrio vulnificus hand infection. (A, B) Preoperative appearance showing marked swelling, blistering, skin discoloration, and necrosis of the affected hand. (C–E) Intraoperative findings during surgical debridement, demonstrating extensive soft-tissue necrosis. (F–H) Postoperative findings during subsequent surgical management, including thumb amputation and skin grafting for wound reconstruction. The patient underwent sequential surgical debridement, thumb amputation, and subsequent skin grafting for wound reconstruction. Thumb loss resulted in permanent anatomical impairment and incomplete recovery of hand function.(I) Plain radiograph of the affected hand. (J) Hematoxylin and eosin staining showing extensive inflammatory cell infiltration.