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Case Report

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Successful Perioperative Management of Acquired Hemophilia B in a Pregnant Patient Refusing Blood Transfusion Due to Religious Beliefs

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ABSTRACT

Rationale and Objectives

Acquired hemophilia B (AHB) is an ultra-rare, potentially life-threatening bleeding disorder, with pregnancy-associated cases and transfusion-free management scarcely documented worldwide.

Case Report

This report describes the perioperative management of a 33-year-old pregnant Filipino woman with AHB and concomitant iron deficiency anemia who categorically refused allogeneic blood products on religious grounds. Comprehensive work-up revealed a variably prolonged activated partial thromboplastin time, normal factor VIII and von Willebrand factor levels, and a high-titer factor IX inhibitor (10 Bethesda units), confirming acquired hemophilia B. Preoperative optimization followed patient blood management principles, including intravenous iron, subcutaneous erythropoietin, cessation of aspirin and low molecular weight heparin at appropriate gestational intervals, and formulation of a bloodless cesarean section plan with multidisciplinary input from hematology, obstetrics, anesthesia, allergy-immunology, neurology, and psychiatry. At term, the patient underwent urgent repeat cesarean section with bilateral tubal ligation under spinal anesthesia, using tranexamic acid, meticulous surgical technique, and vigilant hemodynamic monitoring; estimated blood loss was 400 mL, and no blood products, factor concentrates, or bypassing agents were administered. The postoperative course was uneventful, with stable hemoglobin, absence of hemorrhagic or thrombotic complications, and healthy maternal and neonatal discharge.

Discussion and Summary

This case demonstrates that, even in a resource-limited setting, pregnancy-complicated AHB can be managed safely without transfusion through early recognition, structured multidisciplinary planning, and rigorous application of blood conservation strategies, and it adds novel data to the sparse global literature on bloodless management of acquired hemophilia B in pregnancy.

Keywords: Acquired Hemophilia B, Patient Blood Management, Pregnancy

Introduction

Background of the Study

Acquired hemophilia (AH) is a rare and serious bleeding disorder, occurring in approximately one person per million each year, caused by the spontaneous development of autoantibodies against coagulation factors—most commonly factor VIII. This condition is life-threatening due to the unpredictable onset and severity of bleeding. While acquired hemophilia A (AHA) dominates reported cases, acquired hemophilia B (AHB) is exceptionally rare, accounting for only a small fraction of all acquired factor inhibitor disorders [1, 2]. AHB typically presents with sudden, often severe bleeding, anemia, and an isolated prolonged activated partial thromboplastin time (APTT), but its diagnosis is frequently delayed due to clinical unfamiliarity and limited literature [3,4].

Bleeding in AHB can be triggered by a range of underlying conditions, including the postpartum state, malignancy, or autoimmune disease, but a substantial subset of cases remains idiopathic. The clinical course is further complicated during pregnancy, as peripartum acquired hemophilia—though already rare—carries significant maternal and fetal morbidity. While 2–10% of acquired hemophilia cases are associated with

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pregnancy, most involve factor VIII inhibitors, and current management guidelines are almost exclusively derived from acquired hemophilia A experience. Perioperative bleeding, particularly around cesarean delivery, has the potential to be catastrophic in this setting, yet global experience with AHB during pregnancy remains extremely limited [5, 25].

The complexity is greatly magnified when patients decline blood transfusion for religious or personal reasons. In these cases, clinicians face the dual challenge of honoring patient autonomy and employing alternative, evidence-based hemostatic strategies—ranging from factor concentrates and antifibrinolytics to meticulous surgical technique and pharmacologic optimization of erythropoiesis. Publications addressing the convergence of pregnancy, AHB, major surgery, and transfusion refusal are exceedingly rare in the international literature.

In resource-limited settings like the Philippines, specialized coagulation diagnostics, costly hemostatic agents, and the availability of comprehensive multidisciplinary teams are often constrained, making the management of ultra-rare bleeding disorders especially challenging. Consequently, pregnancy-associated acquired hemophilia B, particularly involving bloodless management remains limited in the literature.

This case report describes the perioperative management of a pregnant Filipino patient with acquired hemophilia B who categorically refused all blood products on religious grounds, highlighting challenges in diagnosis, multidisciplinary care, and the implementation of transfusion-free hemostatic strategies. To the best of our knowledge, this represents the first documented case of pregnancy-associated acquired hemophilia B in the Philippines, generating actionable insights for clinicians locally and contributing valuable data to the global literature in hematology, obstetrics, and ethics.

Case

Patient Information and Background

A 33-year-old Filipino woman (G6P2 (2032) presented to a tertiary care center for peripartum management under a medically and ethically complex situation. Although raised Roman Catholic, she practiced Jehovah's Witness beliefs through maternal influence and had a signed advance directive declining all blood transfusions and plasma-derived products.

Her personal bleeding history included recurrent unexplained childhood mucosal bleeding, heavy menstrual bleeding, prior hospitalizations for upper gastrointestinal bleeding, and significant blood loss during her two previous cesarean deliveries, during which no hemostatic interventions were documented. There was no known family history of a bleeding disorder.

Obstetric and Gynecologic History

She was referred in her second trimester due to high-risk pregnancy and recurrent fetal loss, with features suggestive of HLA alloimmunization. Prophylactic low-dose aspirin and tinzaparin were initiated to mitigate thromboembolic risk and reduce the likelihood of further miscarriage. Despite the complexity, her pregnancy progressed uneventfully, with reassuring fetal growth on serial monitoring.

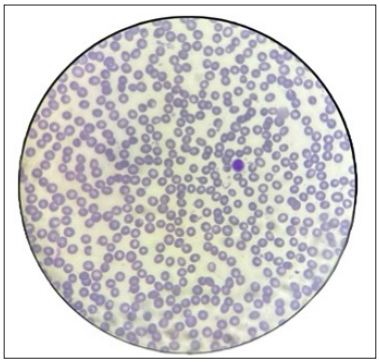

Figure 1: Peripheral blood smear of the on second trimester showing microcytic cells supporting iron deficiency anemia

Laboratory Work-up

Hematologic evaluation revealed progressive iron deficiency anemia, initially managed with oral iron and subsequently with intravenous iron therapy, along with subcutaneous erythropoietin 4000 IU, thrice weekly (Figure 1). Peripheral blood smear shows microcytosis (Figure 2), platelet counts remained normal, hemolysis screens were negative, and the coagulation profile showed a normal PT, variably prolonged aPTT. Autoimmune and thrombophilia panels—including lupus anticoagulant, β2-glycoprotein, and anticardiolipin antibodies—were negative. Factor assays initially demonstrated normal factor VIII and von Willebrand factor; factor IX was initially low but later normalized. Critically, a factor IX inhibitor was identified and quantified at 10 Bethesda units, confirming acquired hemophilia B (Table 1).

Table 1: Laboratory Profile Before and During Pregnancy. This table summarizes the patient's coagulation factor assays, clotting times, and autoimmune markers before and during pregnancy. Reference ranges are provided in parentheses. Notable findings include significant increases in Factor VIII and Factor IX activity during pregnancy, presence of a Factor IX inhibitor, and normal von Willebrand factor activity and autoimmune markers.

Test	Results (Reference Range)
Factor IX assay	Pre-pregnancy: 9% → Pregnancy: 153% (50–150%)
Factor IX inhibitor	10 Bethesda units (Normal: 0 BU)
Factor VIII assay	Pre-pregnancy: 100.4% → Pregnancy: 235% (50–150%)
PT/INR	Pre-pregnancy: 11.10 sec / 0.99 → Pregnancy: 13.6 sec / 1.03
PTT	Pre-pregnancy: 40.6 sec → Pregnancy: 29.3 sec
Von Willebrand Collagen Binding Activity	>2.5 (0.4 to 2.5)
Von Willebrand Factor Antigen	1.2 (0.5 to 1.5)
ANA Immunofluorescence (1:80)	Negative
DRVVT	1.2 (0.8–1.2)
Anticardiolipin A IgG	Negative
Anticardiolipin A IgG	Negative
Beta 2 Glycoprotein IgG	Negative
Beta 2 Glycoprotein IgM	Negative

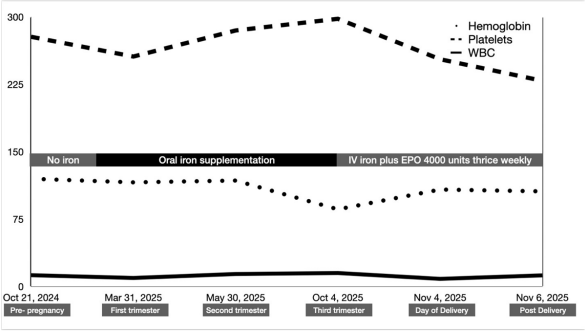

Figure 2: Complete blood count trends during pregnancy and peripartum management in a patient with acquired hemophilia B refusing transfusion.

Longitudinal hemoglobin (red), platelet (yellow), and white blood cell (gray) trends are shown from pre-pregnancy to postpartum. Treatment phases included no iron supplementation, oral iron therapy, and intravenous iron with erythropoietin 4000 U thrice weekly. Hemoglobin declined despite oral iron and improved after IV iron and erythropoietin in the third trimester, supporting bloodless optimization before cesarean delivery. Platelet counts remained within physiologic ranges, and WBC levels showed expected pregnancy-associated leukocytosis.

Hematologic Diagnosis

The patient was diagnosed with acquired hemophilia B (factor IX inhibitor) with concomitant iron deficiency anemia, complicated by her refusal of transfusion.

Preoperative Optimization

This patient's care required multidisciplinary input—spanning allergy/immunology, neurology, obstetrics-gynecology, hematology, and psychiatry—due to her intricate history of recurrent pregnancy loss, bleeding diathesis, and comorbid psychiatric conditions. Reproductive Immunology findings highlighted HLA alloimmunization, which means that the patient had inadequate immune tolerance to the placental antigens paternal origin which can lead to poor implantation and placentation. This was managed with Tinzaparin (3500 IU subcutaneous once daily), owing to its probable immunomodulatory effects thus promoting tolerogenic placental microenvironment. Placental blood flow and amniotic fluid index was closely monitored. Fetal weight was optimized with protein supplementation [26, 27]. Neurology remained vigilant for possible intracranial pathology based on longstanding headaches, with no focal deficits observed and imaging deferred during pregnancy for safety. A later CT scan demonstrated no evidence of thrombosis, vascular malformations, acute hemorrhage, infarct, or focal brain lesions, supporting conservative neurologic management. Obstetric care emphasized intensive prenatal surveillance and individualized delivery planning. Serial ultrasound examinations demonstrated appropriate fetal growth, while the patient's history of spontaneous abortions and perioperative bleeding prompted development of a bloodless cesarean section protocol consistent with her advance directive. She received low-dose aspirin (80 mg once daily) for preeclampsia risk reduction.

Hematologic management focused on correcting the patient's multifactorial anemia and performing a comprehensive evaluation for potential bleeding disorders. The anemia was attributed to pregnancy-related hemodilution, iron deficiency, and a possible component of anemia of chronic disease. Iron supplementation was initially provided as oral sucrosomial iron but was later transitioned to intravenous iron sucrose due to inadequate response, with a cumulative dose of approximately 1200 mg administered over six infusions, calculated using the Ganzoni formula. Concurrently, epoetin alfa therapy (4000 IU three times weekly) was initiated about four weeks prior to the anticipated delivery, while oral iron supplementation was maintained as tolerated. Despite efforts to procure bypassing agents and employ cell-saver technology, significant logistical barriers—including funding limitations—precluded their use, necessitating detailed risk counseling and modification of perioperative management plans.

Psychiatric oversight was essential due to coexisting PTSD and major depressive disorder, both secondary to multiple traumas and pregnancy losses. Treatment included sertraline and supportive therapies, with regular monitoring for suicidality. This case underscores the importance of proactive, integrated multidisciplinary care in optimizing outcomes for high-risk, multi-morbid obstetric patients, while transparently recognizing and adapting to real-world resource limitations

Peripartum and Operative Course

The patient went into spontaneous labor at term and subsequently required an urgent repeat lower-segment cesarean section with bilateral tubal ligation. Standard intraoperative management included a plain lactated Ringer's infusion, spinal anesthesia, bladder catheterization, skin preparation, and prophylactic cefazolin 2 g IV.

Surgery commenced at 19:45. A female neonate was delivered at 19:55, followed by placental expulsion at 19:58. Carbetocin (100 mcg IV) was administered immediately after placental delivery. Uterine repair and hemostasis were achieved without complication, after which the bilateral tubal ligation was completed. The operative course was efficient and uneventful.

Blood conservation strategies were prioritized intraoperatively, incorporating preoperative tranexamic acid administration, precise and expeditious surgical technique by an experienced team, and vigilant anesthetic management. Estimated blood loss was 400 mL. In accordance with the patient's advance directive, no blood products or bypassing agents were administered.

Meanwhile, Tinzaparin was withheld for more than 24 hours following the onset of intermittent labor at home and remained on hold upon hospital admission. Low-dose aspirin (usually 80 mg daily) for preeclampsia prophylaxis was stopped at 36 weeks. Throughout the intra- and postoperative periods, rigorous monitoring documented stable hemodynamic parameters and hemoglobin levels with no evidence of ongoing hemorrhage.

Postoperative Course and Outcome

Postoperative management included continued tranexamic acid therapy and close surveillance. The patient experienced no abnormal bleeding, maintained stable hemoglobin without transfusion, and had no infectious or thrombotic complications. Both she and her neonate were discharged healthy and stable.

The patient was scheduled for a four-week postpartum follow-

up to repeat complete blood count, coagulation factor assays, and inhibitor testing, timed to coincide with the expected normalization of hemostatic parameters. Although physiologic levels of most coagulation factors typically stabilize within 12 weeks following delivery, this timeline may be prolonged in the presence of cesarean section, soft tissue trauma, retained placental fragments, or uterine atony. These conditions predispose to delayed postpartum hemorrhage, particularly among patients with congenital or acquired coagulation defects. This case exemplifies the safe and successful "bloodless" perioperative management of pregnancy-complicated acquired hemophilia B in a patient refusing transfusion, highlighting the critical roles of multidisciplinary coordination, preoperative optimization, and ethical respect for patient autonomy.

Discussion

Case Rarity and Importance

This case illustrates the exceptional complexity and multidisciplinary demands of managing pregnancy complicated by acquired hemophilia B, particularly in a patient with strong religious objections to allogeneic blood transfusion. Acquired hemophilia B is recognized globally as an ultra-rare bleeding disorder, with only a handful of cases reported in the literature. The majority of documented cases occur outside of pregnancy and involve factor VIII (acquired hemophilia A), rather than factor IX. The estimated global incidence of acquired hemophilia (types A and B combined) ranges from 0.2 to 1.4 cases per million per year, with most cases involving factor VIII inhibitors; instances of acquired hemophilia B are substantially rarer and are almost exclusively described in isolated case reports. In the Philippines, while hereditary hemophilia B and acquired hemophilia A have been reported, there are no published case reports or prevalence studies specifically addressing acquired hemophilia B, particularly in the context of pregnancy or transfusion refusal [3,24].

The management of such cases presents unique challenges, as most published guidance is derived from experience with acquired hemophilia A, and there is virtually no precedent for bloodless management in this setting. The diagnostic process in this case was particularly challenging. Clinical findings could have been mistaken for common pregnancy-related complications. Confirmation of a factor IX inhibitor required systematic laboratory evaluation in conjunction with careful attention to the patient's bleeding history. This underscores the importance of maintaining a high index of suspicion for atypical bleeding disorders in pregnant patients presenting with unexplained hemorrhage.

Diagnostic Challenges

Diagnosing acquired hemophilia B (AHB) in pregnancy is complex because the condition is rare and pregnancy itself introduces physiologic, pharmacologic, and resource-related confounders. Pregnancy induces substantial alterations in hemostasis, creating a hypercoagulable state that can obscure hypocoagulable disorders. These physiologic changes influence routine coagulation parameters and complicate interpretation of inhibitor assays, as elevated factor levels and pregnancy-adjusted reference intervals may mask deficiencies or alter inhibitor titers [6]. Use of pregnancy-adjusted ranges and consideration of chromogenic or immunologic assays can improve diagnostic accuracy in this setting [7].

Pharmacologic therapy further complicated evaluation in this case. Although aspirin does not typically affect PT, APTT, or factor assays because these tests do not measure platelet function, heparin like tinzaparin interferes significantly with clot-based factor IX inhibitor assays by prolonging aPTT and falsely lowering factor IX activity. This may create false-positive or inflated inhibitor titers, rendering clot-based Bethesda or Nijmegen assays unreliable. Chromogenic assays, which are not affected by LMWHs, are therefore preferred for accurate inhibitor detection; if clot-based methods must be used, samples should be drawn at trough levels or treated with heparin-neutralizing agents [8].

Despite these challenges, recognition of APTT prolongation and systematic exclusion of more common etiologies using factor assays led to identification of a significant factor IX inhibitor. However, diagnostic progress was hindered by systemic limitations: specialized assays such as Bethesda testing and comprehensive factor panels are costly and available only in select tertiary centers. Patients from resource-limited regions often require social service support to finance testing, leading to unavoidable delays and increased hemorrhagic risk.

Overall, this case demonstrates how pregnancy-related physiologic shifts, medication effects, and limited diagnostic resources intersect to complicate the identification of rare bleeding disorders. It underscores the necessity of clinical vigilance, multidisciplinary coordination, and stepwise laboratory evaluation to ensure timely and accurate diagnosis of AHB in pregnancy.

Peripartum Risks and Management Complexity

Clinical vigilance is critical during the peripartum and postpartum periods, as acquired coagulation inhibitors—most commonly targeting factor VIII and rarely factor IX—can precipitate severe hemorrhage if unrecognized [7]. Pregnancy induces profound hemostatic changes, including elevations in factors VII, VIII, IX, X, and fibrinogen, along with reductions in natural anticoagulants such as antithrombin and protein S. Subtle increases in platelet consumption may further mask underlying hypocoagulable states [9].

Hypercoagulable state resolves gradually after birth, as clotting factor levels normalize in 8 to 12 weeks postpartum but tissue injury, cesarean delivery, retained placental tissue, or uterine atony can disrupt hemostatic equilibrium, amplifying hemorrhage risk—particularly in women with pre-existing or acquired coagulation disorders [10].

Tinzaparin was withheld for over 24 hours after intermittent labor began at home and remained on hold upon hospital admission. Current guidelines advise that patients anticipating imminent labor omit the next dose of low molecular weight heparin and present all relevant documentation at the delivery unit to allow individualized peripartum management. For planned procedures—such as cesarean delivery or neuraxial anesthesia—a minimum 12-hour interval between the last prophylactic tinzaparin dose and needle or catheter placement (or removal) is recommended to reduce perioperative bleeding and anesthetic risks. Pharmacokinetic variability is notable: in a cohort receiving prophylactic tinzaparin (50 IU/kg), 46%

required dose adjustment, with many exhibiting peak 4-hour anti-Xa levels <0.1 IU/mL, emphasizing the need for tailored anticoagulant management in pregnancy and the peripartum period [11,12,13]. Low-dose aspirin (typically 80–81 mg daily) for preeclampsia prophylaxis was discontinued at 36 weeks, a common practice before scheduled cesarean delivery, although some protocols continue therapy until delivery if risk persists [14].

This case illustrates an additional layer of complexity: pregnancy complicated by acquired hemophilia B (AHB) in a patient refusing transfusion. Guidance is largely extrapolated from acquired hemophilia A, with virtually no precedent for bloodless management in the Philippines. Systematic laboratory evaluation, targeted inhibitor testing, and careful integration of clinical history were essential to confirming a factor IX inhibitor, underscoring the importance of multidisciplinary coordination and adaptability in atypical peripartum bleeding scenarios.

Bleeding History, and Coagulopathy and Cesarean section

A history of peripartum hemorrhage, particularly following cesarean or other surgical deliveries, is a strong predictor of recurrent postpartum bleeding and calls for heightened vigilance and preventive care. Acquired coagulopathies are frequently missed when unexplained anemia or excessive bleeding is attributed to routine obstetric causes, underscoring the necessity for thorough diagnostic evaluation in atypical presentations. Effective management of inherited and acquired coagulopathies requires an individualized multidisciplinary plan, including targeted factor replacement and collaborative team-based care. Failure to identify coagulation disorders before or during pregnancy increases maternal morbidity and newborn risk for hemorrhagic complications, making preconception and ongoing pregnancy evaluation essential. For all deliveries, the World Health Organization recommends oxytocin as the primary uterotonic agent to reduce postpartum hemorrhage risk [15].

Women with inherited bleeding disorders or who are carriers of hemophilia face increased risks of bleeding during pregnancy, labor, and postpartum, and their infants may also be affected. Preconception assessment—including factor assays, genetic testing, and counseling—is essential for identifying carriers and anticipating fetal risk. Pregnancy management should involve hematology, obstetrics, and anesthesiology, with ongoing monitoring of factor levels and tailored replacement therapy. Vaginal delivery is often safe, but operative interventions (e.g., forceps, vacuum) increase the risk of neonatal intracranial hemorrhage and should generally be avoided when fetal risk is present. Cesarean delivery may be appropriate in high-risk situations. Postpartum care should emphasize hemorrhage prevention, antifibrinolytic therapy such as tranexamic acid, and continued factor replacement due to the potential for delayed bleeding. Delivery in well-equipped centers with multidisciplinary support is crucial to minimizing maternal and neonatal complications [16].

Blood Management Strategies

This case exemplifies the intersection of complex hematologic pathology, pregnancy, and patient-centered ethical care under the principles of Patient Blood Management (PBM) and bloodless surgery. The diagnosis of acquired hemophilia B with iron-deficiency anemia and refusal of transfusion imposed major clinical challenges requiring innovative, multidisciplinary coordination and adherence to evidence-based, patient-centered interventions.

Preoperative Optimization and Multidisciplinary Coordination. In alignment with the three PBM pillars—optimizing red cell mass, minimizing blood loss, and enhancing physiologic tolerance to anemia thorough preoperative evaluation and stabilization, addressing coagulopathy and iron deficiency, while honoring the patient's refusal of transfusion and bypassing agents due to personal or religious beliefs [17].

Despite logistical constraints preventing the use of bypassing agents and cell salvage technology, the care plan emphasized pharmacologic adjuncts (especially tranexamic acid) and anticipatory counseling to prepare for possible hemorrhagic complications. This highlights the adaptability necessary in real-world PBM, especially in resource-limited settings. Multidisciplinary collaboration spanned allergy/immunology, neurology, obstetrics, hematology, and psychiatry, paralleling international PBM guidelines emphasizing system-wide cooperation and individualized risk stratification. The patient's complex case demanded personalized care plans, tailored surveillance, and risk communication.

Bloodless Peripartum Surgical Management. The cesarean delivery was conducted following bloodless surgery principles, which increasingly gain international acceptance as safe and effective strategies for complex surgical patients refusing transfusion [18]. Preoperative administration of tranexamic acid, meticulous surgical technique minimizing tissue trauma, and vigilant anesthetic management collectively limited intraoperative bleeding. The estimated blood loss of 400 mL—within expected norms for cesarean section—demonstrates effective blood conservation despite coagulopathy.

The avoidance of allogeneic transfusions and bypassing agents honored the patient's advance directive and reflected an ethical commitment to respect for patient autonomy. The perioperative plan

included contingency preparations consistent with best practices for patients declining blood products, such as employing antifibrinolytics, precise surgical hemostasis, and rigorous monitoring.

Postoperative Care and Physiologic Adaptation. Continued antifibrinolytic therapy and clinical surveillance facilitated stable hemoglobin, preventing hemorrhagic or thrombotic complications. The patient's physiologic adaptation to anemia is consistent with PBM's principle of maximizing endogenous compensatory mechanisms [16, 17]. Favorable maternal and neonatal outcomes demonstrate that severe bleeding disorders like acquired hemophilia B can be possibly managed safely without transfusion through detailed planning, multidisciplinary input, and respect for patient preferences.

Managing patients who refuse transfusion—such as Jehovah's Witnesses or others with similar beliefs—requires a meticulous, evidence-based, and compassionate approach integrating

pharmacologic, surgical, and supportive interventions. Iron therapy and erythropoietin remain foundational to optimize erythropoiesis preoperatively, while antifibrinolytics reduce bleeding risk and have strong guideline endorsement in transfusion-refusing populations [18,19].

Surgical conservation tactics, including minimally invasive techniques, judicious hemostasis, and intraoperative blood salvage (when acceptable), complement pharmacotherapy [20]. However, refusal of factor concentrates or bypassing agents limits therapeutic options, necessitating transparent counseling about risks and clear documentation of patient preferences [21].

Current literature supports this multi-pronged bloodless management approach as effective and ethical, emphasizing the need for adaptable, patient-specific protocols when standard therapies are declined or unavailable. This case reinforces that bloodless care is feasible through rigorous multidisciplinary collaboration, evidence-based therapies, and respect for patient values, contributing valuable insight to the evolving field of perioperative blood management.

Gaps in Evidence and Protocols

High-quality evidence and standardized protocols for managing rare or complex hematologic disorders in pregnancy remain limited. Most guidance for inherited bleeding disorders, acquired coagulopathies, and rare thrombophilias relies on expert consensus or data extrapolated from non-pregnant populations, rather than robust randomized trials. This weak evidence base results in substantial variability in clinical practice—particularly in the dosing, timing, and selection of factor replacement or prophylactic therapies—making individualized decision-making both essential and difficult [22, 23].

Registry data and national guidelines show wide variation in maternal outcomes, especially around delivery, for women with hereditary or acquired coagulopathies. Protocols for hemophilia carriers, von Willebrand disease, and rare factor deficiencies frequently require tailoring to bleeding history, factor-level trends, and delivery plans. Women with prior cesarean section, previous peripartum hemorrhage, or recent bleeding episodes face heightened risk, yet optimal preventive strategies remain unclear, particularly when rare disorders or acquired inhibitors are involved [23-29].

Because of these gaps, vigilant individualized assessment, multidisciplinary coordination, and contingency planning for hemostatic support are critical. Until stronger evidence and standardized guidelines emerge, management of these high-risk obstetric hematology cases must remain personalized and team-based.

Ethical and Cultural Considerations

Clinical ethics frameworks strengthen collaboration between patients and clinicians by supporting value-aligned, high-quality care. Evidence from Japan shows that such systems do not limit physician autonomy but instead enhance decision-making through structured ethical guidance. In cases of religious refusal of transfusion, "relative transfusion-free" policies may unintentionally constrain true patient self-determination; institutions must therefore promote transparent, autonomy-respecting processes within existing legal and organizational limits [19].

Religious-based refusal of blood products demands careful planning: clinicians must respect the patient's beliefs, offer acceptable alternatives, ensure comprehensive informed consent, and maintain open, non-coercive communication. Ethical balance requires upholding patient autonomy while navigating beneficence, nonmaleficence, and justice—recognizing that a competent patient's well-informed choices ultimately guide care, even when they differ from medical recommendations.

In resource-limited settings, these challenges are intensified by restricted access to alternatives and unclear policy frameworks. Multidisciplinary collaboration with ethics services, legal counsel, and institutional leadership is essential to deliver culturally sensitive, ethically sound, and clinically safe care.

Conclusion

This exceptionally rare case demonstrates that safe perioperative management of acquired hemophilia B in pregnancy is achievable, even in the setting of transfusion refusal and limited setting.

Despite the absence of standard hemostatic agents, careful preoperative planning, antifibrinolytic therapy, meticulous intraoperative blood-saving techniques, and close monitoring enabled a successful bloodless surgery. Respect for patient autonomy and transparent risk communication were central to care. Favorable maternal and neonatal outcomes highlight that, with teamwork and planning, positive results are achievable in high-risk bleeding disorders.

This report fills a critical gap in the literature, emphasizing ethically grounded, patient-centered care, and advocates for improved diagnostics, flexible management protocols, and strengthened multidisciplinary approaches in complex obstetric hematology.

Data Availability Statement

The data supporting the findings of this case report are available from the corresponding author upon reasonable request.

Conflict of Interest Statement

The authors declare that they have no conflicts of interest relevant to this manuscript.

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