

## EDITORIAL

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This is No 2 edition of Vol. 16 of what we may call a second generation of The Thai Journal of Obstetrics and Gynecology after the Royal Thai College of Obstetricians and Gynecologists decided to stop publication for couple of years. We decided to change color of the cover to make it more attractive. We would like to emphasized that the Executive Board decided to renew the publication of the journal in order to offer the members another venue to publish their academic paper in an international standard journal without have to wait for a long time and with no cost of publication. This is the reason that the journal use English language. The members need not to worry about the language; the editorial boards will do their best to make it suitable for publication.

Even though this journal is the official journal of The Royal Thai College of Obstetricians and Gynecologists, it is actually belong to all of the members of The College. Your contribution will make this journal become an international accepted journal. Please submit your academic papers including original article, case report or special review for publication. Your comment and suggestion are also welcome.

**Suphavit Muttamara MD.**  
*Executive Committee*



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## EDITORIAL

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# 2002 Fetal Remains and Our College

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- Past President of The Royal Thai College of Obstetricians and Gynaecologists  
- Advisory Board

The discovery of 2002 fetal remains in the 3 temple crematorium in Bangkok last November had shocked and dismayed Thai society<sup>(1)</sup>. Some felt that this is only a tip of an iceberg, for there are tens of thousands of temples in Thailand. The pictures and news reverberated around the world<sup>(2-4)</sup>. However, that initial shock and indignation was short lived, now 6 months later it is almost forgotten. It generated a lot of intense discussion from news and social media, concerned organizations, women's movements and government ministries that were seen to be responsible. The discussions touched mainly on morality issues as well as health and social well being of women including women's rights issue. The government immediate response was a well publicized raids on several legitimate and illegitimate clinics in Bangkok and up country<sup>(5,6)</sup>. This 'knee jerk' reaction served only to temporary close down further access to safe abortion driving up the market price of abortion. Since then the main focus of the government has been on the discussion of prevention of teenage pregnancy, even though teenage pregnancy represents less than 20 percent of the problem.

The problem of unintended pregnancy and unsafe abortion is now conveniently ignored and destined finally to be swept under the carpet. There are no comprehensive long term plans to put away once and for all this insidious and recurring chronic problem of unsafe abortion, a scourge of modern obstetrics and Thai society<sup>(7)</sup>.

The root cause of the horrific incidence above was poor access to early and safe abortion service for women with unintended or unplanned pregnancy who seek to terminate their pregnancy. If safe service is not available and accessible women will seek the needed service elsewhere and often end up with unsafe abortion with untold complications ranging from sepsis, hemorrhage, perforation of abdominal organs, acute renal failure and even death<sup>(8,9)</sup>. Women with financial resources can access safe termination of pregnancy in privacy at a high cost, and for those who were forced to carry the unwanted pregnancy to term, child abandonment as well as infanticide, (reported all too frequently in all the Thai news media and as recently as this month)<sup>(10)</sup> are usually the unfortunate outcome. Unsafe abortion in the hands of unqualified quacks remains the only choice for these unfortunate women. The cost in terms of life and limbs as well as monetary is high<sup>(11)</sup>.

Unsafe abortion is defined as "the termination of unplanned/unintended pregnancy by persons lacking in the necessary skills, or in an environment lacking minimal medical standard or both"<sup>(12)</sup>.

Unsafe abortion is still a thorn in Thai women's reproductive life, painfully waiting to be removed.

One might ask who is the guardian of women's health here in Thailand ? Officially we can say the Royal Thai College of Obstetricians and Gynaecologists (RTCOC or The College) is the guardian of women's health in Thailand. It's written missions<sup>(13)</sup> include the

followings:

To:-

- *Promote and support education and research as well as maintain good standard of practice in obstetrics and gynecology.*
- *Advice and make recommendation to possible solutions to the government regarding public health problem pertaining to women's health, including reproductive health and the health of unborn child in-utero.*
- *Educate public and other organizations pertaining to women's health issue*

The issue of unsafe abortion needs to be scientifically, not emotionally, addressed urgently by the College. We know that the issue of abortion always aroused intense emotional, often irrational, response from all segment of society. However, the College has a duty and obligation by law to address scientifically any health issue that affect the health and well being of Thai women. Unsafe abortion is one of the important issue threatening and affecting the reproductive health and well being of Thai women right now.

On the issue of Unsafe abortion our College has signed international agreements (MOU's) with international professional organizations (AOFOG, Tokyo 2007 as well as FIGO, Cape Town 2009). Nationally the sensitivity of the subject should not deter our College to persuade our members to care for these troubled women with compassion. Those patients who requested induced abortion should have a nonjudgmental and compassionate care like any other patient who request other reproductive health care. They should be cared for like we would care for close relatives or our loved ones. While the existing subcommittees, such as Maternal and Child Health (MCH) and Reproductive Health (RH), should educate our members of the seriousness of unsafe abortion threatening the health of Thai women, our College's direct responsibility. There are a lot of unanswered questions that require elucidation by research. The outcome of pregnancies that we refused to terminate for various reasons should be studied so we can know for sure what happened to them eventually. The answers would help in formulating the management policy on unsafe abortion in the future.

These suggestions will greatly benefit our patients.

### **Determinants of access**

It is well known that the important determinants to good and equitable access to safe abortion service are laws, abortion technology and most important of all, health care service providers.

### **Law**

Laws in Thailand (article 301-305) permit abortion to be carried out by a registered medical practitioner if the pregnancy is deemed to threaten the health of the mother and if the pregnancy arose from sexual crimes as specified in article 276, 277, 282, 283, 284 of the Thai penal code<sup>(14)</sup>.

The Thai Medical Council also issued a ministerial medical regulation to define health in article 305 of Thai penal code<sup>(15)</sup>.

### **Abortion Technology**

As for abortion technology, there has been impressive advances in abortion technology in the past several decades. The use of manual vacuum aspiration (MVA), instead of dilatation and curettage, to empty uterine contents has been well established as the gold standard for surgical termination of pregnancy<sup>(16)</sup>.

The use of a combination of an anti-progesterone drug, mifepristone, in combination with misoprostol has been developed to such a refinement that with their use in pregnancy of less than 63 days (or nine weeks gestation), the success rate was reported to be as high as 93-95 percent<sup>(17)</sup>. With misoprostol alone, the rate of success was found to be lower. Both surgical and medical abortion procedure for early pregnancy are reported to be safe and simple that there are reports of it's use by mid-level personnel in several countries in Asia and Africa where there is a shortage of medical personnel<sup>(18)</sup>.

### **Health care providers**

Health care providers are the key to success. Access to safe abortion service is entirely dependent on the health care providers' skill and attitude towards abortion. Even if the laws are permissive and the

modern technology are available, whilst the health care provider's attitude is negative towards providing abortion service there will be no safe abortion service. The skills and attitude of the health care workers are very important and entirely dependent on their pre-service and in-service training. This is where the teaching institutions and our College come in. The teaching institutions are responsible for the pre-service training where the basic skills, conceptual as well as manual skills, professional attitude are indelibly imprinted<sup>(19)</sup>. Our College is responsible for the in-service postgraduate specialist training.

### What should our College do?

Our College should faithfully carry out its given mandate by 1) appointing an ad-hoc committee to scientifically and systematically study all available relevant information on the unsafe abortion problem in Thailand and make evidence-based recommendations to the College Council so it can make a further methodical recommendation to the government in order to solve or mitigate health threats arising from the unsafe abortion that is presently affecting our women's health. 2) Review and modify or make new or/ update existing evidence-base guideline(s)<sup>(20)</sup> as well as the existing curriculum for training of specialist to be relevant to the pressing need pertaining to unsafe abortion and women's health in Thailand. 3) Educate the public on the facts and realities on the issue of unsafe abortion.

....."women are not dying from the disease that we can not treat but they are dying because societies have yet to make the decision that their lives are worth saving".....(MF Fathalla, FIGO Past president)

For the sake of the health of our women, when will our medical fraternity including our College make a decision that their lives are worth saving?

Time is running out.

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## SPECIAL ARTICLE

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# Laryngopharyngeal Reflux in Pregnancy

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## Introduction

Laryngopharyngeal reflux (LPR) is the retrograde movement of gastric contents (acid and enzymes such as pepsin) into the upper aerodigestive tract especially the laryngopharynx leading to symptoms referable to inflammatory diseases of larynx/ hypopharynx/throat/ nose & paranasal sinuses/mouth/middle ears. Typical symptoms of LPR include hoarseness, globus pharyngeus (sensation of lump in the throat), cough, excessive mucus in the throat with throat clearing, and mild dysphagia. Sometime, the LPR patients including the pregnant women with LPR also have the excessive saliva and may occasionally complain of a sudden filling of the throat with bitter or salty saliva (water brash).

LPR is related to gastroesophageal reflux disease (GERD), but is not identical to it. Patients with GERD may have no LPR, and conversely, patients with LPR may have no GERD. Most patients are relatively unaware of LPR with only 30 percent reporting heartburn.<sup>(1)</sup> There are no certain criteria that reliably demonstrate a causal link between acid reflux and LPR symptoms. In fact, the validity of reflux as a cause of LPR symptoms, in the absence of symptoms of GERD, has been called into question. Thus, it is likely that some patients are mistakenly diagnosed with LPR, and investigation of other causes of upper airway symptoms (such as allergy, sinus, or other causes of cough, etc) should be considered for patients who fail to respond to LPR management.

Heartburn, the cardinal symptoms of GERD, is a normal consequence of pregnancy. The predominant etiology is the decrease in lower esophageal sphincter pressure (LESP) caused by female sex hormones, especially progesterone. Thus, GERD and LPR may be ones of normal consequence of pregnancy. Most patients begin to note their symptoms late in the first trimester or second trimester of pregnancy with symptoms becoming more frequent and severe in the latter months of gestation.

## Epidemiology

There are relatively limited data on the prevalence of LPR. It is difficult to determine the prevalence of LPR in the population because there is no clear diagnostic gold standard criteria to diagnose LPR. There are no studies of the prevalence of LPR in pregnancy.

## Pathophysiology

LPR can cause upper airway symptoms directly or indirectly. The direct mechanism involves irritation of upper aerodigestive mucosa by refluxate through the action of caustic materials (ie, acid, pepsin etc.) on the tissues. The indirect mechanism involves irritation of distal esophagus by refluxate that does not reach the upper aerodigestive mucosa, this irritation evokes the vagally-mediated reflexes that cause laryngeal and bronchial reflexes (laryngospasm, apnea, cough, asthma-like symptoms through bronchoconstriction

etc.). Regardless of the pathway, factors such as the resting tone of the upper and lower esophageal sphincters (UES and LES) and the duration and magnitude of increases in intraabdominal pressure are important to the creation of the refluxate bolus.

In the first trimester of pregnancy, basal (resting) lower esophageal sphincter pressure (LESP) may not change, but is less responsive to physiological stimuli (i.e. pentagastrin, edrophonium chloride, methacholine or a protein meal) that usually increase LESP<sup>(2,3)</sup>. In the later two trimesters, LESP gradually falls approximately 33-50% of basal values reaching a nadir at 36 weeks of gestation and rebounds to prepregnancy values 1-4 weeks postpartum<sup>(4)</sup>. Animal and human studies reported that the increased circulating levels of progesterone during pregnancy mediate the LES relaxation (decreased LESP), but estrogen is a necessary primer<sup>(2)</sup>. The role of increased intraabdominal pressure because of the enlarging gravid uterus is more controversial. All studies agreed with the increasing intraabdominal pressure with the increasing gestational age during pregnancy. It is unknown whether the normal compensatory increasing response of the LESP to these changes is impaired during pregnancy<sup>(2)</sup>. Others have suggested that abnormal gastric emptying or delayed small bowel transit might contribute to reflux in pregnancy. A limited number of studies have examined the role of the LES, esophageal motility, gastric emptying, and increased intraabdominal pressure from the enlarged gravid uterus in promoting reflux during pregnancy.

Although gastric acid is common to both LPR and GERD, there are many differences making LPR a distinct clinical entity. The majority of GERD patients have signs of esophagitis on biopsy, while only 25 percents of LPR patients do<sup>(5)</sup>. GERD is felt to be a problem of the LES and mainly occurs in a supine position. In contrast, LPR is seen as primarily an UES problem that mainly occurs in the upright position during periods of physical exertion (eg, bending over, Valsalva, exercise)<sup>(5)</sup>. There appears to be a lower incidence of esophageal dysmotility in LPR versus GERD.

## CLINICAL MANIFESTATIONS

LPR is ubiquitous and associated with many upper airway symptoms and diagnoses. In some cases, the symptoms are the diagnosis, for example, LPR can cause sore throat, chronic cough, globus pharyngeus, and laryngospasm. Alternately, LPR can be associated with specific histopathologic lesions, for example, vocal process granulomas. LPR can be the sole cause or an etiologic cofactor in the development of many disorders of the upper airway.

The common LPR symptoms are dysphonia or hoarseness, cough, globus pharyngeus, excessive mucus in the throat/throat clearing, and mild dysphagia. Even though the symptoms and finding of LPR have been described, the clinical diagnosis is sometimes elusive. Symptoms can occur in the absence of conclusive physical findings, and they can be nonspecific symptoms. There are many factors possible contributing the symptoms similar to LPR, such as postnasal drip, allergic rhinitis, upper respiratory infections, habitual throat clearing, tobacco or alcohol use, excessive voice use, temperature or climate change, emotional issues, environmental irritants, etc.

In addition to typical LPR symptoms, reflux-induced respiratory symptoms are also common. The association between LPR and asthma has been well documented. Asthma can predispose a patient to have reflux. Also, LPR can exacerbate asthma. Microaspiration of gastric refluxate and resultant bronchiectasis can also occur. Some investigators have found strong associations between LPR and airway stenosis, sleep apnea, laryngospasm, and nasal congestion<sup>(5)</sup>. Although the etiology of these disorders is multifactorial, LPR as a sole cause or as a cofactor should be routinely considered in the differential diagnosis of subglottic stenosis, asthma, laryngospasm, bronchiectasis, chronic rhinitis, and sleep-disordered breathing.

## Diagnosis in The Pregnant Patients

There is significant controversy over the appropriate way to diagnose LPR and there is no test that is both easy to perform and highly reliable. Most



patients are diagnosed clinically based on symptoms associated with LPR. In patients who are seeing an otolaryngologist, the clinical history is generally augmented with a laryngoscopic examination. However, the lack of standardized criteria for the diagnosis of LPR and the relatively poor correlation between symptoms and endoscopic findings of LPR have been cited as a rationale against the use of endoscopic techniques to diagnose LPR<sup>(6,7)</sup>.

The initial diagnosis of LPR in pregnancy can reliably be made based on symptoms alone. Any radiographs are not necessary and should be avoided because of radiation exposure to the fetus. Esophageal manometry and pH monitoring studies, as in the non-pregnant patient, are rarely necessary during pregnancy but can be performed safely. Endoscopic examination (laryngoscopy or transnasal esophagoscopy) is the procedure of choice to evaluate intractable LPR symptoms.

**Treatment of LPR During Pregnancy**

The challenge of treatment during pregnancy is the potential teratogenicity of common antireflux medications. Diets and lifestyle modification is the key for treating mild symptoms. Smaller meals, not eating

late at night, elevation of the head of the bed and sleep by the left side, and avoiding foods and medications causing reflux usually relieve the mild symptoms seen in early pregnancy. Chewing gum stimulates the salivary gland can help neutralize acid by salivary bicarbonate. Abstinence from alcohol and tobacco are encouraged to reduce reflux symptoms and to avoid fetal exposure to these harmful substances.

For more troubling reflux symptoms, the doctor must discuss with the patient about benefits versus the risk of drug therapy. Informed consent is appropriate. Nearly all medications are not tested in randomized-controlled studies in pregnant women because of ethical and medicolegal concerns. Most recommendations on drug safety arise from case reports and cohort studies by doctors, pharmaceutical companies or the FDA. Voluntary reporting by the manufacturers suffers from unknown duration of follow-up, absence of appropriate controls and possible reporting bias<sup>(8)</sup>.

The incidence of major fetal malformations in the general population ranges between 1% and 3%. The US FDA divides the safety of drugs during pregnancy into five categories (A, B, C, D and X) based on systemic absorption and reports of congenital defects in animals or humans (Table 1)

**Table 1.** US FDA Classification of Drugs for Pregnancy<sup>(2)</sup>

FDA classification	Definition
Category A	Well controlled studies in humans show no fetal risk
Category B	Animal studies show no risks, but human studies inadequate or animal studies show some risk not supported by human studies
Category C	Animal studies show risk but human studies are inadequate or lacking or no studies in humans or animals
Category D	Definite fetal abnormalities in human studies but potential benefits may outweigh the risks
Category X	Contraindicated in pregnancy, fetal abnormalities in animals or humans. Risks outweigh benefits

**Table 2.** summarizes the drugs used for reflux diseases in pregnancy.



**Table 2.** FDA Classification of Drugs Used for Reflux Diseases in Pregnancy (modified from Ref.2)

Drugs	FDA class	Comments
<b>Antacids</b>		
Aluminium-, calcium- or magnesium-containing antacids	None	Most are safe for use during pregnancy and for aspiration prophylaxis during labour because of minimal absorption
Magnesium trisilicates	None	Avoid long-term, high-dose therapy in pregnancy
Sodium bicarbonate	None	Not safe for use in pregnancy as causes fluid overload and metabolic alkalosis
<b>Mucosal protectant</b>		
Sucralfate	B	No teratogenicity in animals. Generally regarded as acceptable for human use because of minimal absorption
<b>Histamine<sub>2</sub>-receptor antagonist (H<sub>2</sub>RA)</b>		
Ranitidine	B	Ranitidine is the only H <sub>2</sub> RA whose efficacy during pregnancy has been established
<b>Promotility agents</b>		
Metoclopramide	B	No teratogenic effects in animals or humans reported
<b>Proton-pump inhibitors</b>		
Omeprazole	C	Embryotoxic and fetotoxic in animals. Case reports in human suggest similar concerns. Acceptable for use for aspiration prophylaxis in labour
Lansoprazole	B	No fetal teratogenicity or harm. Limited human pregnancy data. Use is acceptable for aspiration prophylaxis during pregnancy
Rabeprazole	B	No fetal teratogenicity or harm. Limited human pregnancy data. Use is acceptable for aspiration prophylaxis during pregnancy
Pantoprazole	B	No fetal teratogenicity or harm. Limited human pregnancy data. Use is acceptable for aspiration prophylaxis during pregnancy
Esomeprazole	B	No fetal teratogenicity or harm. Limited human pregnancy data. Use is acceptable for aspiration prophylaxis during pregnancy

Alginates (Gaviscon ) form a strong, non-systemic barrier in the stomach, preventing reflux of stomach's contents (acid, pepsin, and foods) into the esophagus (acts as the "antirefluxant").

The H<sub>2</sub>RAs are the most commonly used and safest medications for the pregnant woman with reflux not responding to lifestyle modification and non-absorbable medication. The H<sub>2</sub>RAs are category B drugs for pregnancy. Ranitidine has no antiandrogenic activity in animal<sup>(10)</sup>. Neither H<sub>2</sub>RA has reports of human sexual defects in infants.

Proton-pump inhibitors (PPIs) are the most effective drug therapy for symptom control and healing of reflux esophagitis. The PPIs have not been as extensively used in pregnancy as the H<sub>2</sub>RAs, or is their efficacy proven in pregnancy, and the data about total safety are more limited. However, unlike the non-pregnant patients, PPIs should only be used during pregnancy in women with well-defined complicated reflux diseases, not responding to lifestyle modification, antacid, mucosal protectants, promotility drugs, and H<sub>2</sub>RAs.

Unlike the non-pregnant patient, step-up therapy is preferred (diets and lifestyle modification → antacids → mucosal protectants → alginate compounds → promotility drugs → H2RAs → PPIs) in pregnant patients.

## CONCLUSION

There are no studies of the prevalence of LPR in pregnancy, but LPR may be one of normal consequence of pregnancy. The predominant cause is a decrease in LESP caused by female sex hormones, especially progesterone. Serious reflux complications during pregnancy are uncommon; therefore upper endoscopy and other diagnostic tests are usually not needed. Symptomatic pregnant patient should be managed with a step-up algorithm beginning with diets and lifestyle modification. Antacids or sucralfate are considered the first-line medical therapy. If symptoms persist, alginate compounds or promotility drugs or any of the H2RAs can be used. PPIs are reserved for women with intractable symptoms or complicated reflux disease. Most drugs are excreted in breast milk. Of the systemic absorbed agents, only ranitidine is safe to use during lactation.

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