Postpartum psychiatric disorders

Current Review

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Postpartum blues, postpartum neurotic depression and puerperal psychoses have distinct clinical features; they affect women in all social classes and in all cultures, and despite numerous studies they have not been linked definitively with any biologic or psychosocial variables. The only possible exception is puerperal psychosis, which emerges much more often in women with a personal or family history of a bipolar affective disorder than in women without, a finding that probably explains the reluctance of some researchers to recognize puerperal psychotic episodes as distinct from psychotic episodes at other times. If postpartum blues last longer than 2 weeks and are disabling they are classified as neurotic depression and warrant treatment, often requiring both psychosocial approaches and psychotropic drug therapy. Antidepressants, major tranquillizers, electroconvulsive therapy and lithium have proved effective in the treatment of postpartum psychoses, depending on the symptoms. Both lithium and diazepam have been reported to cause deleterious side effects on breast-fed infants, and as the side effects of other psychotropic drugs given to a nursing mother are imperfectly understood, bottle feeding seems prudent.

La tristesse post-partum dite "blues", la dépression névrotique post-partum et les psychoses puerpérales constituent des entités cliniques distinctes qui se retrouvent dans toutes les classes sociales et au sein de tous les groupes culturels. Ces états ne montrent pas de rapport définitif avec les facteurs biologiques et psycho-sociaux qui ont été étudiés à répétition, sauf la psychose puerpérale, qui se voit plus volontiers chez la femme ayant un antécédent personnel ou familial de cyclothymie que chez celle qui n'en a pas. Ce dernier fait expliquerait pour-

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Reprint requests to: Dr. G. Erlick Robinson, Department of Psychiatry, 8-231 Eaton Bldg. N, Toronto General Hospital, 200 Elizabeth St., Toronto, Ont. M5G 2C4 quoi certains chercheurs sont peu enclins à distinguer les épisodes psychotiques puerpéraux de ceux qui surviennent à d'autres moments de la vie. Si la tristesse post-partum se prolonge au delà de 2 semaines et est infirmante, il faut parler de dépression névrotique et offrir le traitement; souvent et la thérapie psycho-sociale et le traitement médicamenteux psychotrope s'imposent. Selon les symptômes on se trouve bien dans le traitement de psychose post-partum des antidépresseurs, des tranquillisants majeurs, de l'électrochoc et du lithium. Comme on a rapporté des effets nuisibles du lithium et du diazépam chez le nourrisson au sein, et que les effets secondaires possibles chez lui des autres psychotropes ne sont pas bien connus, il paraît prudent de conseiller en pareil cas l'allaitement artificiel.

S ince 1858, when Marce¹ wrote a treatise on puerperal psychosis, the problems that some women experience in the postpartum period have been the subject of much confusion. Some people lump the different disorders into one category, postpartum depression, and some do not recognize puerperal psychosis as a distinct entity.

The etiology of the disorders is still unclear, although various hypotheses have been put forth. A review of the current state of knowledge is worth while since the problems affect not only the woman but also her spouse, previously born children and newborn baby.

Classification

The British view postpartum psychiatric disorders as a distinct group whose etiology, clinical presentation and prognosis differ from those of nonpuerperal mental illnesses. In contrast, the American view is that the disorders are simply affective or schizophrenic episodes occurring post partum.

A major reason for the confusion is that most studies of childbirth-related psychiatric illnesses have dealt with a heterogeneous population comprising not only patients whose psychiatric disorder was first manifested post partum but also those with previous episodes.²

Three types of postpartum disorders have been defined: postpartum blues (also known as maternity or baby blues), postpartum neurotic depression (also known as puerperal neurosis) and puerperal psychoses.

Postpartum blues occur in about 50% to 70% of puerperal women.^{3,4} The syndrome is transitory, resolving spontaneously within a few hours to 2 weeks.⁵ It is characterized by intermittent mild fatigue, crying, anxiety, difficulty thinking clearly and sleep disturbances.

Postpartum neurotic depression is said to affect 10% of all childbearing women.⁶⁷ The syndrome disables the patient for more than 2 weeks and is characterized by a depressed mood and difficulty coping, particularly with the infant.⁸

Psychoses occur in 1 to 2 per 1000 postpartum women; they may present as schizophrenic or affective disorders or as confusional states.9 Although many authors² have argued that postpartum episodes of these disorders are no different from those occurring at other times, some British researchers^{9,10} have maintained that they are distinct. The DSM III¹¹ lists postpartum psychosis as an atypical psychosis, stating: "Such disorders do not meet the criteria for an organic mental disorder, schizophreniform disorder, paranoid disorder or affective disorder." Hamilton⁹ reviewed a number of studies and concluded that puerperal patients differ from those with the classic affective or schizophrenic psychoses in that they demonstrate organic symptoms including delirium, confusion, hallucinations and marked variability of mood.

Postpartum changes

Pregnancy and delivery result in numerous biologic and psychosocial changes. Many have been explored as possible contributors to postpartum psychiatric disorders.

Biologic changes

The levels of a number of hormones change during the postpartum period. Progesterone levels fall suddenly between the first and second stages of labour,³ and estrogen levels drop when the estrogen-secreting placenta is expelled. Serum levels of prolactin progressively increase throughout pregnancy, although the action of the hormone to stimulate and sustain lactation is blocked by estrogen as long as the placenta is in utero. Cortisol levels, which rise in both the plasma and the urine during pregnancy, decrease markedly within 4 hours post partum.

Other biologic changes that have been reported to occur post partum involve thyroid function, body weight and electrolyte levels as well as levels of amino acids and plasma endorphins. Rapid losses of weight and sodium begin about day 3, whereas calcium excretion tends to decrease during the first week. Tryptophan levels have been reported to be low late in pregnancy but to rise markedly on days 1 and 2 post partum and then gradually return to normal; how much these changes reflect seasonal variations is not clear. The level of plasma β -endorphins becomes high during labour and falls rapidly within 1 hour of delivery.

Psychosocial changes

Pregnancy and the transition to motherhood arouse many psychologic stresses. A woman must come to terms with changes in her body image, her relationships with her husband and parents, her responsibilities as well as society's perception of her role. Jealousy and hostility toward the infant and fear of losing her identity are common feelings as she makes the adjustment. Having a child may lead to financial or housing difficulties and may strain even a stable marriage.

Postpartum blues

Although most clinicians consider postpartum blues trivial, this temporary condition causes unhappiness and difficulty in functioning. It usually starts with a brief period of weeping on the third or fourth day after delivery⁴ and peaks between the 5th and 10th days.³ Symptoms in order of frequency are insomnia (70%), weepiness (66%), depression (54%), fatigue (54%), anxiety (51%), headaches (35%), poor concentration (29%) and confusion (21%).¹² Elation may occur, most commonly only on the day of delivery but sometimes persisting longer.¹³

The pattern and incidence of postpartum blues have led investigators to search for a biologic basis. Researchers have found no clear correlation with changes in the levels of sex hormones (estrogen, progesterone, prolactin and follicle-stimulating or luteinizing hormones)^{14,15} or with changes in thyroid function, weight, or levels of electrolytes, cyclic adenosine monophosphate, monoamines or monoamine oxidases.¹³ Elevated levels of plasma cortisol at 38 weeks of pregnancy have been implicated in increased severity of the blues,¹⁶ as have premenstrual tension^{14,17} and menstrual irregularities,¹⁶ but the causal links remain unclear.

Many midwives and doctors consider the blues almost essential to relieve the tension and anxiety following delivery. If the blues were part of the normal adjustment to having children, one would expect the first birth to be associated with the greatest psychologic impact, a finding in some studies^{3,14} but not others.^{16,18}

The prevalence does not seem to differ across cultures¹⁹ or environments (hospital v. home delivery),^{3,19} and extensive research has not conclusively linked the blues with the events of labour and delivery, social class, marital status or other factors.^{4,14,18,20,21}

No treatment is needed, but the woman and her family benefit from being reassured that the symptoms are common in new mothers, that they will disappear and that they may be caused by hormonal changes. Emotional support and information about newborn care are also beneficial.

The majority of women recover completely within 2 weeks, although in a few women the problem seems to merge into a more serious postpartum neurotic depression. Many women have recurrences of the blues in later pregnancies.

Case illustration

A 24-year-old, primiparous woman was mildly euphoric on the first day post partum but was weeping at 4 and 9 hours after delivery. On days 2 and 3 she was content, complaining only of being tired. On day 4 she was quite well in the morning but cried intermittently during the day and reported: "I feel so depressed. I feel irritated with my baby crying and feel I can't look after him properly. I have a headache and feel irritable with my husband and the nurses." She felt well the following day and thereafter.

Postpartum neurotic depression

When the symptoms of depression are somewhat disabling and last more than 2 weeks the disorder qualifies as postpartum neurotic depression. Tearfulness, despondency, emotional lability, guilt, anorexia, sleep disturbances and feelings of inadequacy in coping with the infant persist⁷ and may be worse in the evening. Many of the women worry about not loving their baby enough and express anxiety about feeding or spoiling the baby, about the baby's sleep and about older children's jealousy. Hypochondriasis, irritability, impaired concentration, poor memory and undue fatigue are common. Psychotic symptoms, however, are never present in this condition.

Investigations have not shown any neuroendocrine or neurotransmitter correlation with postpartum neurotic depression, nor have they convincingly linked the condition with previous psychiatric illness^{7,22-24} or prenatal anxiety or depression.^{7,20,25-27}

Poor family and marital relationships,²² upsetting life events in the recent past, length of labour³ and memories of unhappy events during childbirth⁸ have all been cited as contributors. Yet other researchers have been unable to establish links with obstetric variables,^{16,18} and Cox²⁸ showed that among a group of new mothers in Uganda the proportion with depression was almost equal to that in a group in the United Kingdom. Social class does not seem to be a determining influence.^{6,22,29}

Much of the confusion stems from the poor

quality of the studies, which were mainly retrospective.

The treatment of postpartum neurotic depression is both psychosocial and biologic. Many women and their families are helped simply by the physician's recognizing the condition as a treatable emotional disorder and dispelling their fears of physical disease or personal inadequacy.

The goal of the psychotherapy is to resolve the conflicts the woman has by providing an opportunity for her to ventilate and to understand her feelings more clearly.

Providing information about care of the newborn and about sources of social assistance, marriage counselling and homemaking support may also be helpful.

Tricyclic antidepressant drugs (usual therapeutic dose 150 to 300 mg/d) may be helpful in restoring sleep and relieving persistent depression. The use of monoamine oxidase inhibitors demands more caution and should be under the supervision of a psychiatrist. Tranquillizer-sedatives such as diazepam reduce anxiety but can produce dependency; their use should be brief and adjunctive to psychosocial therapy.

Nearly two thirds of the patients recover within a year, although some are left with soured family relationships.^{7,30} The bond between mother and newborn is liable to be impaired, and marital relationships are often strained. If the patient needs hospital care the infant should be simultaneously admitted or brought into the hospital for long visits to prevent further attachment difficulties.

Case illustration

A 34-year-old woman with newborn twins had moderate anxiety in hospital following delivery, stating: "I'll never be able to manage them at home." She had long-standing marital problems and was ambivalent about having children. After leaving the hospital she became increasingly depressed and anxious. The home-help nurse reported that the new mother frequently awakened the babies "to see if they were okay" but became irritable and tearful when they cried. She took the babies to the emergency ward of the local hospital 11 times in 2 weeks, complaining that they didn't sleep, frequently vomited, breathed "funny" and ate little.

She went to see her family physician four times in the same interval with complaints of being tired, depressed and irritable as well as reporting insomnia, memory loss and skipped heart beats. She was referred for outpatient psychotherapy and attended both marital and individual sessions.

During the fourth week post partum she was admitted to hospital for 5 days and began a regimen of tricyclic antidepressants. Her anxiety decreased quickly, and her depression disappeared gradually after 8 weeks of outpatient psychotherapy and antidepressant treatment. Issues that surfaced in psychotherapy were her relationships with her husband and mother, her fears of losing her career and becoming trapped and dependent, and her difficulties forming a bond with the newborns. By 6 months she had returned to work and by 9 months was symptom free. Her marital relationship remained strained, and her mother seemed to develop a closer relationship with the twins than did either the patient or her husband.

Postpartum psychosis

Postpartum psychosis usually is manifested after an asymptomatic period of 2 to 3 days and most often occurs during the first 3 weeks after delivery. Brockington and colleagues¹⁰ maintained that, by definition, puerperal psychoses do not begin later than 6 weeks post partum. The prodromal symptoms of postpartum psychosis are sleep disturbances, restlessness, fatigue, depression, irritability, headache and emotional lability.

The patient may exhibit an atypical or brief reactive psychosis, a major affective disorder (depression or mania), schizophrenia or an organic brain syndrome. She often has difficulty coping with care of the infant and may appear confused, bewildered, perplexed and dreamy, complaining of poor memory although performing normally in formal memory tests.¹⁰ Classically she shows signs of psychotic depression with manic or schizophrenic features and some cognitive impairment that suggests an organic disorder of the brain.

With psychotic depression the woman is often tearful, is preoccupied with guilt and feelings of worthlessness, shows psychomotor retardation, and has sleep and appetite disturbances. Excessive concern with the baby's health, guilt about lack of love, and delusions about the infant's being dead or defective are common. She may deny having given birth or report hallucinations that command her to harm the baby.

With postpartum mania the woman is euphoric, excited, noisy, grandiose, irritable and hyperactive; she has little need for sleep. She is often highly critical of her husband and medical attendants and seldom is aware of her problem.

The schizophrenic picture is characterized by thought disorder, delusions, inappropriate affect and hallucinations. The patient may exhibit motor agitation or retardation (catatonic features). She may express bizarre ideas about herself or the infant and, like the manic patient, is usually unaware of her problem.

In patients who present with organic brain syndrome one must rule out medical conditions such as encephalitis, autoimmune disorders, endocrine and electrolyte disturbances, and sepsis. Usually, however, the investigations yield normal results, and the confusion is part of the psychiatric condition. No evidence exists that postpartum psychosis is a disorder with a unique genetic predisposition.³¹ Of new mothers known to have had a bipolar affective disorder 40% will show signs of a recurrent postpartum psychosis.³² There is also an increased incidence (20%) of postpartum psychosis in the first-degree relatives of women with bipolar affective disorders.³⁰ In contrast, previous unipolar depressions are not associated with an increase in the risk of psychotic depressions post partum.

As is the case for other psychiatric disorders that emerge post partum, no link has been established between biologic changes and puerperal psychosis. Despite terms like "lactational psychosis", researchers have been unable to confirm a link between postpartum psychosis and levels of prolactin^{33,34} or, for that matter, levels of thyroxine, estrogen, progesterone, adrenal corticoids, folliclestimulating hormone or β -endorphins.

All classes of women seem susceptible, as do women in different cultures. Primiparous women constitute 54% of the patients exhibiting psychosis,³⁵ a finding that suggests a psychologic cause. However, no increase in incidence of psychosis has been found with twin deliveries, stillbirths or neonatal deaths, all of which cause stress.³³ Being a single mother has been suggested as a contributing factor,^{33,36} only to be refuted.^{34,37} The same can be said for having a premature delivery or some other obstetric complication,^{33,38} although the incidence of psychosis was 20% among women who had undergone cesarean section and 8% in a control group.³³

While psychotic, the patients should be cared for with their infants in hospital, where they can be supervised and become confident in caring for their newborns. The treatment depends on the primary symptoms and diagnosis, but all the disorders respond best to a mixture of psychosocial and drug therapy, with environmental support from relatives and others being essential.

Antidepressant medication (tricyclic or tetracyclic), such as amitriptyline, 150 to 200 mg at bedtime for several weeks, will relieve depression, but a major tranquillizer is better if the patient has psychotic symptoms. Chlorpromazine, 400 to 800 mg/d, or haloperidol, 10 to 100 mg/d, usually controls the psychotic symptoms as well as the depression. If the psychotically depressed woman is suicidal or infanticidal or does not respond to medication after an adequate trial, electroconvulsive therapy (ECT) is often efficacious, sometimes providing a complete remission after six or eight treatments.

For the woman who presents with hypomania or mania, drugs that have proved effective include lithium and the major tranquillizers (for example, chlorpromazine, up to 2000 mg/d), alone or in combination. The therapeutic level of lithium in the serum, 0.8 to 1.2 mmol/L, is usually provided by a daily dose of 600 to 1800 mg of lithium carbonate; a major tranquillizer may be necessary to control acute symptoms while the level of lithium is building up. Women who have a history of a bipolar disorder are liable to have a recurrence post partum and are prime candidates for immediate administration of lithium after delivery as prophylaxis.

For women who present with a schizophrenic picture chlorpromazine, 100 to 1200 mg/d, or haloperidol, 10 to 100 mg/d, usually relieves the symptoms after a few weeks. Those who do not respond adequately to several weeks' therapy with the major tranquillizers and have depression or hypomania may respond to ECT.

According to Hamilton,³⁹ 95% of women treated for postpartum psychosis improve within 2 to 3 months. Patients exhibiting confusion, an affective disorder or a catatonic state tend to have shorter illnesses than do those who show signs of schizophrenia with thought disorder, delusions and hallucinations. The latter may have residual symptoms.

Adding the results of several studies of recurrence, Brockington and colleagues¹⁰ found that 31% of the women suffered a later episode, and psychosis complicated 21% of their pregnancies. The risk is therefore one in five for each succeeding pregnancy. Those with a more severe psychosis might have a higher risk. Protheroe⁴⁰ found that the recurrence rate in women who showed signs of schizophrenia was 47%, with a 24% risk after each pregnancy. A rate of 50% has been reported for those with a bipolar disorder.³² Arentsen⁴¹ found that a majority of his patients had recurrent illness unrelated to childbirth, and Protheroe⁴⁰ reported similar findings for 43% of his patients, although neither made it clear whether the confusion characteristic of postpartum psychoses was a feature of the later episodes. Mothers with postpartum psychosis have more difficulties in childrearing than do mothers without postpartum psychosis, and Uddenberg and Englesson³⁰ found that the children of such women view their parents negatively.

Case illustrations

In a typical case of postpartum psychosis with depression as the salient feature a 28-year-old married woman was tearful on the third postpartum day. On day 4 she refused her meals and complained of insomnia and exhaustion. She continually sought reassurance that her baby had not died. She showed psychomotor retardation and could not correctly name the date or hospital. She was preoccupied with guilt for failure of a previous marriage and blamed herself for recent deaths of babies in another hospital despite never having visited the institution. Neither she nor any other member of her family had a history of psychiatric illness.

She was referred for psychiatric evaluation on day 6 and was transferred with her baby to the psychiatric unit. For several weeks she was given a tricyclic antidepressant (amitriptyline, 150 mg at bedtime) but continued to be psychotically depressed, stating that she and the baby would be better dead. She was not left alone with the infant but, under supervision, fed and cared for the child. Two other antidepressants were tried, without improvement, so ECT was started at 6 weeks post partum. She felt better after four treatments and was completely well after eight. She was discharged during the ninth week, was followed as an outpatient and continued drug therapy until 6 months post partum. She has remained well and appears to be a good mother to a normal toddler.

The clinical picture for postpartum hypomania is quite a contrast. A 26-year-old married woman surprised the nursing staff on day 4 post partum by loudly singing hymns in the hall at 4 am. During the next 24 hours she caused turmoil on the obstetrics ward by shouting in the halls and skipping into other patients' rooms to announce she was about to start classes in bioenergetics and urging them to participate. She refused meals and denied any need to sleep since she was "in touch with the source of superior power". She was hyperactive and overtalkative and showed pressure of speech. She invited the obstetrician to make love to her and, when the psychiatrist was hastily summoned, shoved her out of the room. The patient's mother had a history of manic-depressive illness, but the patient had not previously had unstable moods. During the psychiatric consultation she vacillated from expressing hostility to telling jokes. She could not give the month or day and had trouble with serial subtraction of 7 from 100. Therapy with haloperidol, 10 mg four times a day, was started, the infant being switched from the breast to a bottle. The patient was transferred to the psychiatric ward with her baby, for whom she provided care under supervision. By 6 weeks she had returned to normal and was discharged. At 10 weeks she showed signs of psychotic depression, which was treated with amitriptyline, 150 mg at bedtime. On maintenance therapy with lithium carbonate, 300 mg three times a day, she has had no more mood swings and appears to be a good mother to an active toddler.

In an illustrative case of schizophrenia a 22-year-old married woman appeared normal until the sixth postpartum day, when she suddenly disappeared with her baby and was found in a nearby church. She said her infant was the new Jesus Christ and that people were trying to kill her and the baby. She complained of auditory hallucinations — voices making rude remarks about her ability to look after the baby — and of being exhausted from lack of sleep. She laughed while describing how frightened she was of the threatening voices. During the psychiatric consultation she was unable to complete thoughts, had trouble concentrating and completing simple memory tests, and made loose associations. She was deluded, confused, agitated and tearful. There was no family or personal history of mental illness.

She and her infant were transferred to the

psychiatric ward, where treatment was instituted - bottle feeding of the newborn and haloperidol therapy, 10 mg four times a day, for the mother. She began to show severe parkinsonian-like symptoms unrelieved by anticholinergic medication (benztropine mesylate, 2 mg twice a day). Her medication was changed to chlorpromazine, 100 mg four times a day, and she complained of more auditory hallucinations and "scary thoughts". The dosage was doubled, and by week 3 she was improving. By week 7 the voices had stopped and she was developing skills in infant care. At week 8 she was discharged and was to receive home-care help, psychiatric follow-up and supervision by the child welfare agency. She continued to have mild thought disorder after 7 months and proved to be a marginally adequate mother when given extensive community support and a maintenance dose of chlorpromazine (100 mg four times a day). At 18 months the toddler showed a delay in reaching developmental milestones.

Drugs and breast feeding

The welfare of the child during treatment of the mother is always an important consideration and may dictate that bottle feeding be substituted for breast feeding. Psychotropic drugs, like most medications, are excreted in breast milk, the concentration depending on the solubility, proteinbinding characteristics and pH of the drug.⁴² The pH of breast milk is 6.8 and that of plasma 7.4, so that acidic drugs concentrate less in breast milk than do alkaline drugs. A general rule is that the concentration of drugs in breast milk is about 10% of the level in the mother's plasma, but there are wide variations.⁴³

The use of antidepressant medications in women who are breast feeding is controversial. Anath⁴⁴ stated that therapeutic levels of the tricyclic antidepressants are not excreted in breast milk in sufficient amounts to harm the baby; however, their effect on the infant's developing neurotransmitter system is not known, an uncertainty that warrants caution in their use for nursing mothers.

Benzodiazepines, which are sometimes administered to patients with puerperal neurotic depression, cause serious risk to the newborn, producing lethargy and impairing temperature regulation. They are not metabolized in the neonatal gut or liver from day 1 to 4, and they may cause jaundice, as the newborn is unable to conjugate them with glucuronic acid.⁴⁴

The major tranquillizers appear to concentrate less in breast milk than do the other medications — the breast milk level is one third of the level in maternal plasma — and have not been associated with side effects in human newborns despite several large studies.⁴⁴ However, some animal studies have shown serious side effects of haloperidol,⁴⁴ and in our opinion caution is warranted in the use of such drugs. Although Schou and Weinstein⁴⁵ have asserted that nursing mothers can safely take lithium, other researchers have reported severe toxic effects in the infants.⁴⁶

Conclusions

There are three psychiatric disorders typically seen in the postpartum period. The first of these, postpartum blues, is distressing but so common as to be considered almost normal. Postpartum neurotic depression lasts longer than postpartum blues and may progress to bonding failure, marital problems or chronic emotional instability. The last, postpartum psychosis, is uncommon but serious, often frightening to both the family and the physician. It usually can be treated effectively.

All three disorders have distinct clinical features, and to date no relation between them has been established. All women are potential candidates for emotional upheaval during the postpartum period, and women who are single, primiparous, or anxious or depressed during pregnancy, as well as those who have a history of mental illness (particularly bipolar affective disorders) or previous postpartum psychiatric disorders, have problems during labour or delivery, or have concurrent personal or social stresses, may be at increased risk. Too often women disappear into the home postnatally and have limited outside contact for the crucial first months. A physician on the alert for postpartum disorders can offer early treatment and intervention, thereby eliminating a great deal of distress for the woman, her partner and, eventually, her child.

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Disease and destiny

Once a disease has entered the body, all parts which are healthy must fight it: not one alone, but all. Because a disease might mean their common death. Nature knows this; and Nature attacks the disease with whatever help she can muster. Therefore, the medicines that you prescribe must encompass the entire expanse of the firmament, the close and distant celestial spheres.

Paracelsus (1493?-1541)